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ABSTRACT

This theme journal issue is devoted to the learning revolution in educational innovations aimed at global citizens. The article titles and authors are as follows: (1) "A Personal Introduction" by Alan AtKisson; (2) "Onward and Upward!" by Dee Dickinson; (3) "Multiple Intelligences in the Classroom" by Bruce Campbell; (4) "Learning As Transformation" by Harrison Owen; (5) "Accelerated Learning" an interview with Libyan Labiosa Cassone; (6) "The Primacy of Story" by Renee Fuller; (7) "Difference Is Not Deficiency" an interview with James Vasquez by Alan AtKisson; (8) "The Compass of Meaning" by David Boulton; (9) "Unfinished Business" by David Koyama; (10) "Developing Motivation for Lifelong Learning" by Raymond J. Wlodkowski; (11) "Learning How To Learn" an interview with Kathy Greenberg by Duane M. Fickeisen; (12) "The Case for the Arts" by Eric Oddleifson; (13) "Earthwise Learning" by John Burbidge; (14) "Learning Through Service" by Kate McPherson; (15) "What Is Education For?" by David Orr; (16) "How To Start a Revolution at Your School" by Linda MacRae-Campbell; and (17) "Applying Our Knowledge" by Dee Dickinson. Also included are a letters section with correspondence from readers; news on education from around the world; and small articles on education reform, learning communities on campus, multicultural resources, adult learning, and book reviews. (JB)

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IN CONTEXT

A QUARTERLY OF HUMANE SUSTAINABLE CULTURE

ACCELERATED LEARNING
Libyan Labiosa Cassone

❖

MULTIPLE INTELLIGENCES IN THE CLASSROOM
Bruce Campbell

❖

LEARNING AS TRANSFORMATION
Harrison Owen

❖

DIFFERENCE IS NOT DEFICIENCY
James Vasquez

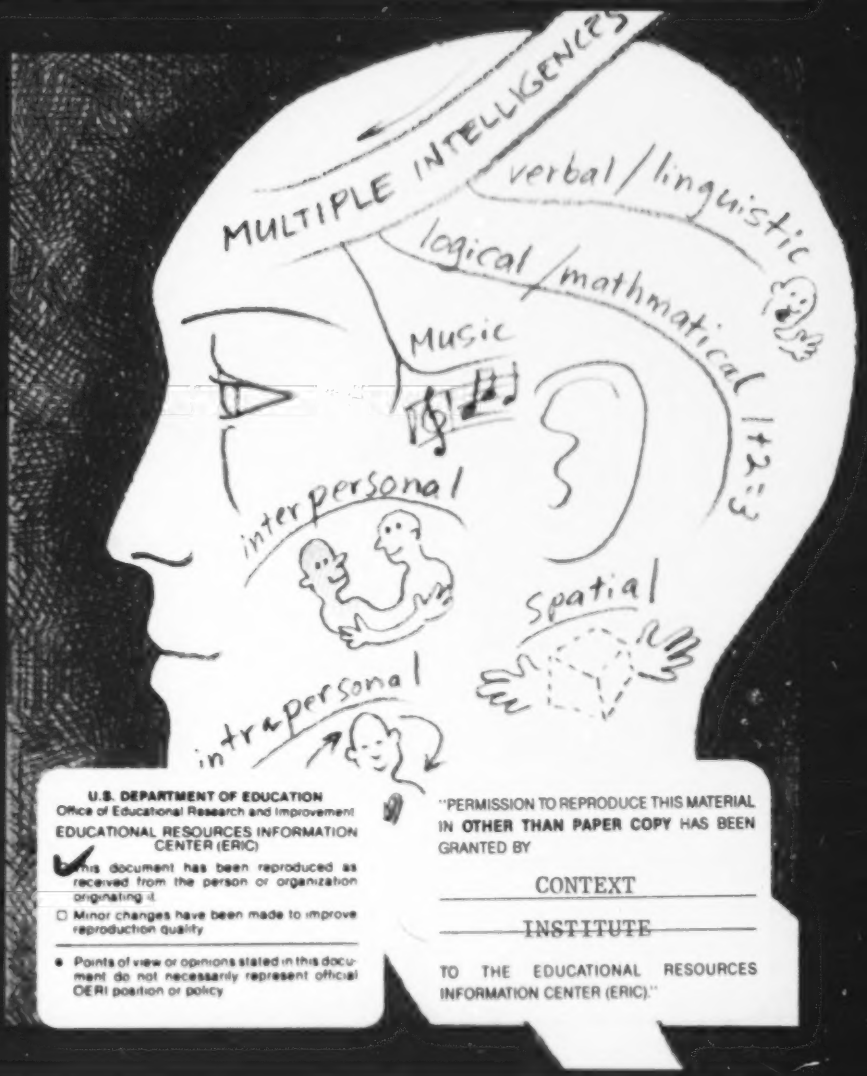
❖

THE PRIMACY OF STORY
Renée Fuller

❖

WHAT IS EDUCATION FOR?
David Orr

and more



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THE LEARNING REVOLUTION

Education Innovations For Global Citizens

HE 025 863

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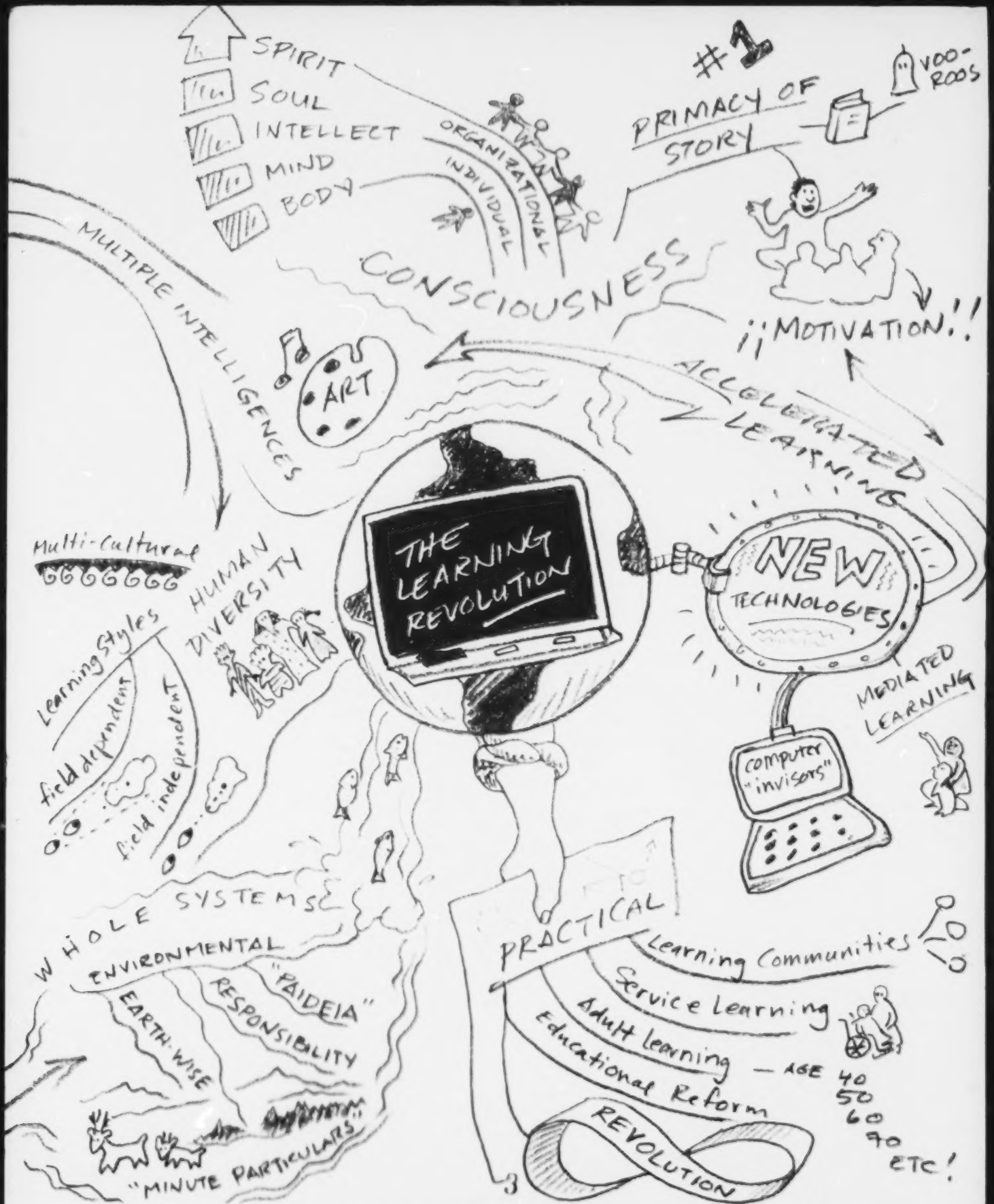

The above is a "mind map" of the contents of this issue, by Kari Berger. Mind mapping was developed by British author and brain researcher Tony Buzan in the early 1970s to be to the information age "as outlining was to the industrial and medieval ages." An excellent brochure on how to mind map is available for $5 from High Performance Learning Center, 4613 Davenport St. NW, Washington, DC 20016.

About This Issue

It takes only a glance at the newsstands to know that education is in deep trouble. In France, 250,000 students recently took to the streets to protest unsafe conditions and reduced education budgets. In the U.S., public schools in some parts of the country are being all but abandoned by those who can afford private alternatives. And around the world, education – preparing the next generation to lead productive and fulfilling lives – too often suffers from being on the short end of a dwindling resource stream.

It doesn't have to be that way.

Everywhere on the planet, committed teachers, researchers and administrators are working to develop exemplary schools, 21st-century curricula, and innovative teaching strategies – for people of all ages, abilities, and learning styles. As guest editor Dee Dickinson notes, "The revolution has begun."

It may come as a surprise that much of this revolution is not based on expensive electronic equipment. Rather, it involves a shift in the way we understand what it means to learn and to teach. Yes, we need to invest more money and resources in our schools, our teachers, our students, and ourselves. But we need equally to invest more creativity, compassion, attention, and discernment. We need to be willing to make significant changes not only in the structures of education, but in our ideas about learning.

But learning for what? We are already far too skilled in exploiting the Earth for human ends, yet we are still terribly ignorant about the real basics of life – how to live sustainably on this planet, and in peace with each other. So whether you consider yourself an educator, a learner, or a concerned citizen, this issue is for you; for if the insights and technologies gathered here were put to the service of healing our societies and the planet's life systems, they would spark a revolution of enormous – and beautiful – proportions. We hope you'll participate in making that vision a reality. ▲

Special thanks to our guest editors for this issue, Dee Dickinson and Linda MacRae-Campbell of New Horizons for Learning, an international network of education innovators based in Seattle, Washington. *For more about New Horizons, see page 61.*

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IN CONTEXT, a cooperative project of Context Institute, explores and clarifies what is involved in developing a humane sustainable culture – and how we can get there. Our goal is to help facilitate widespread, effective, direct participation in building a healthier world – for all life. Our central interest is not in what is wrong today, but rather in those practical steps and useful insights that can make today and tomorrow better. We invite you to join us in this challenging adventure.

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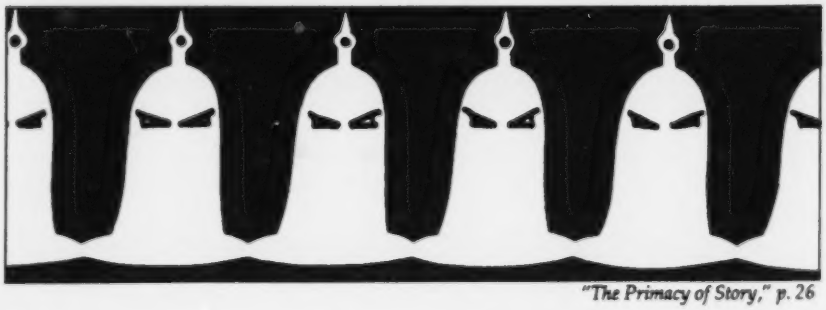

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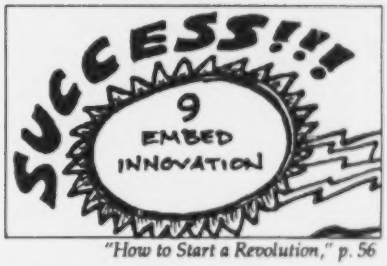

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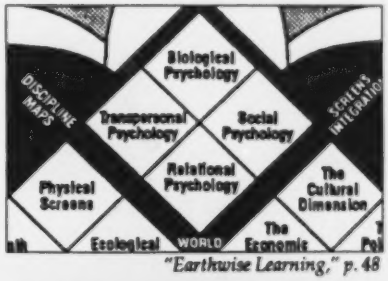

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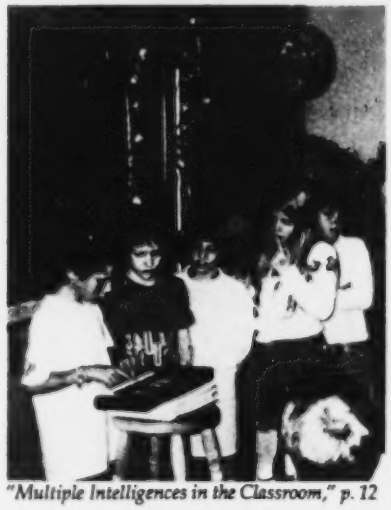

"Multiple Intelligences in the Classroom," p. 12

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FEEDBACK

Letters from our readers

NOBODY LOVES THIS PLANET

In IC #25 we published a response from Alan AtKisson ("The Utility of Global Thinking") to an essay by Wendell Berry ("The Futility of Global Thinking," in the September 1989 issue of Harper's). They continue their discussions here.

Dear Mr. AtKisson,

I welcome your disagreement. As you suggest, it would be bad for a man with a local mind to be stuck with a "universal voice." Though I do confess to a varying interest in our planet, the universe does not interest me in the least. But, of course, I also disagree with your disagreement, and I am grateful for your kindness in letting me reply.

The title given to my essay as it appeared in *Harper's* was not mine; my title is "Word and Flesh." I don't think global thinking is "futile"; I think it is impossible. You can't think about what you don't know, and nobody knows this planet. Some people know a little about a few small parts of it. It is possible, I believe, to learn enough about a small place to live in it without permanently damaging it. I believe that because I know that in the past some people have known so much and lived so well. At present, nearly every human alive is living at the cost of permanent damage to some place – typically, the damage is to many places that the damagers do not know, however determined they may be to "think globally."

The people who think globally do so abstractly and statistically, by reducing the globe to quantities. The people who have done so most successfully have been political tyrants and industrial exploiters. Their concepts and their greed are abstract, and their abstractions lead with terrifying directness and simplicity to acts that are invariably destructive.

If you want to do good and preserving acts you must think and act locally. The effort to do good acts gives the global game away. You can't do a good act that is global. A good act has to be scaled and designed so that it fits harmoniously into the natural conditions and givens of a particular small place. A good act, to be good, has to be acceptable to what Alexander Pope called "the genius of the place." This calls for local knowledge, local skills, and local love that virtually none of us now has, and that none of us can get by thinking globally. We can only get it by a local fidelity that we would have to maintain through several lifetimes.

Certainly, the effects of our failure are global; I have never said that they weren't. But their causes are local, and their only possible solutions will be.

I dislike to be presumptuous, but I simply don't believe that anybody loves this planet, for I don't believe you can love, any more than you can think about, what you don't know – that is, if "love" is to mean anything at all. I don't wish to be "loved" by people who don't know me; if I were a planet I would feel exactly the same way. People who "love" what they don't know may properly be suspected of carelessness, if not of bad intentions.

"Love for the planet – seen as a whole from space" is a case in point. In the first place, the planet never has been "seen as a whole from space." It has, from space, been seen only as a half, as I am not the first to say. It has been seen from space, moreover, only as sadly reduced by great distance. I have looked many times at the planet as photographed from space. It is a blurry little blue ball that looks to me like a Christmas tree ornament. I have not found in those pictures one thing that makes me love to be alive. Why should I get all cranked up about saving a planet the size of a softball? But the whole earth is present to me in my neighborhood; I know it is a large, mysterious, painful, joyful, lovely world because my neighborhood is small, mysterious, painful, joyful, and lovely.

Finally, I want to say that local living is not less necessary for city people than for country people. All of us, in city or country, must learn to shorten our supply lines and live as much as we can from nearby sources that we can see and know and thus, we must hope, learn to take care of.

– *Wendell Berry*
Port Royal, KY

Dear Wendell Berry,

You and I agree about far more than we disagree. I admire your writing a great deal, much more than I gave expression to in my essay. I can, again, only echo your calls to act locally, take care of what is around us, love in ways that are real and tangible.

But I still find your stand on global, abstract thinking puzzling. Certainly, "nobody knows this planet." It is another matter, however, to cede the game of global thinking to the tyrants and exploiters of this world. What of the acts of citizen diplomats and international environmental activists, who must think globally if they are to be effective? While their successes may seem tiny against the backdrop of devastation, the world would be much sadder – and probably much more devastated – without their efforts.

In a sense, I agree with you that "you can't do a good act that is global." All acts are local by definition – we act where we are. But the reach of our acts is, increasingly, global, and always has been. Your books, conversations, and other "local acts" affect the world. It is the nature of our time that these ripplings outward are simply more amplified, rapid, and visible than before. We can ignore them or try to act in conscious awareness of them; but their reality remains.

I don't accept the notion that planetary thinking is always done "by reducing the globe to quantities," nor that it leads inevitably to destruction. For those working to counter global-scale ravaging, the abstractions are more often in terms of qualities – the beauty and mystery of the Earth, the inherent worth of its natural systems, the precious uniqueness of our planet seen hanging in the void. These thoughts do not diminish love of place or being a "local" person. Indeed, they often evoke the commitment to love one's place in more tangible ways, and to become more rooted.

It's surprising and enlightening to learn that you do not admire the images of Earth as seen from space. We may simply be encountering a difference in aesthetics – and it may be something else. I recently learned, for example, that parts of our discussion are a perfect illustration of a clash in cognitive style (see p. 30 of this issue).

Who knows if humanity was "meant" to ponder its home planet from the blackness of space. The question is moot. I only know that the image stirs me deeply, inspires me to act locally, calls me to a kind of love for this world that is both oceanic and tangible – a love that inspires me to change.

And that change, as you wrote in another essay, "requires that we make the effort to know the world and to learn what is good for it.... We must abandon arrogance and stand in awe." Amen.

– *Alan AtKisson*

***Feedback** continued on p. 64*

GIVE US FEEDBACK!

We enjoy getting letters from our readers, and though we can't print or respond to all of them, they do get read, thought about, and often discussed. Address letters to Feedback, IC, Box 11470, Bainbridge Island, WA 98110. Published letters may be edited for length and clarity.

FACTS OUT OF CONTEXT

Number of copies of *Little Red Riding Hood* removed from Empire, CA, classrooms because the school board felt that the bottle of wine in grandma's basket of goodies sent a message condoning the use of alcohol: 400.

•

One in six Americans is functionally illiterate and reads at lower than 6th-grade level.

•

The U.S. ranks 49th among 156 United Nations members in literacy – a drop of 18 places since 1950.

•

Over the next decade, 1,000,000 American young people will drop out of school annually, at an estimated cost of $240 billion in lost earnings and foregone taxes over their lifetimes.

•

Percentage of American 3-year-olds in some kind of early childhood education program: 21%.
Percentage of Belgian children attending state-run nursery schools: 95%.

•

The United States will need two million new teachers in the public school system between now and 1995.

•

The average 8th-grader spends less than 6 hours per week on homework and more than 21 hours watching television.

•

One-third of all 8th-graders report that no adult relative has ever talked with them about their schoolwork.

•

Percentage of students in a recent poll who said they would cheat on an exam: 47%.
Percentage who said they would lie to achieve a business objective: 66%.

•

Number of hours of community service donated by U.S. high school students annually: 17 million. [see page 50]

•

Increase in "ethics" stories listed in *The New York Times* index between 1969 and 1989: over 400%.

•

15% to 25% of the price of a ladder goes to cover the manufacturer's legal and liability costs.

•

OPEC price for a barrel of oil before the Iraqi invasion: $17.50.
Price per barrel of OPEC oil prior to the invasion if U.S. military costs in the Middle East and the cost of foreign aid given to strategic Middle East allies are figured in: $80.

•

The United States consumes 40% of the oil being produced in the world. 60% of that is used for transportation.
U.S. cars travel over one trillion miles each year.

•

Percentage of American oil use that could be replaced by the natural gas emitted from rotting vegetation and garbage dumps: 100%.

SOURCES *(Facts are not checked beyond published source)*: **1.** *The Washington Spectator*, 1 Sep 1990. **2.** Karen Howell, Washington Literacy, cited in *Seattle Times*, 7 Sep 1990, p. E1. **3.** Literacy Volunteers of America, 5795 Widewaters Parkway, Syracuse, NY 13214. **4.** Marvin J. Cetron and Margaret Evans Gayle, *Educational Renaissance: Our Schools into the Twenty-First Century*, St. Martin's Press, 1990; cited in *The Futurist*, Sep/Oct 1990, p. 34. **5.** U.S. Dept. of Education, cited in *The New York Times*, 10 Oct 1990, p. B8. **6.** Marvin J. Cetron and Margaret Evans Gayle, *op cit.* **7.** National Assessment of Education Progress, cited by Charles Osgood, *Seattle Post-Intelligencer*, 3 Oct 1990, p. A9. **8.** National Assessment of Education Progress, cited by Charles Osgood, *Seattle Post-Intelligencer*, 3 Oct 1990, p. A9. **9.** Louis Harris & Assoc., cited in *Wall Street Journal*, 6 Apr 1990, p. B1. **10.** Youth Service America, 1319 F Street NW, Suite 900, Washington, DC 20004. **11.** *The Chronicle of Philanthropy*, 7 Aug 1990, p. 28. **12.** American Ladder Institute, cited in *Wall Street Journal*, 10 Aug 1990, p. B1; submitted by Len Bonifaci. **13.** Alan Tonelson and Andrew K. Hurd, Economic Strategy Institute, *Seattle Post-Intelligencer*, 4 Sep 1990, p. D1. **14.** Ellen Goodman, *Washington Post*, 25 Aug 1990, citing Worldwatch Paper 84, "Rethinking the Role of the Automobile." **15.** Former British Columbia Minister of Science Patrick L. McGeer and Professor Enoch J. Durbin, *Seattle Post-Intelligence*, 3 Oct 1990, p. A9.

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PLANETARY PULSE

A representative sample of news, trends, and opportunities for change

SCHUMACHER COLLEGE OPENS ITS DOORS

Waking early, I hear rain drumming down. The scent of old stone and wood, which have stood here for over six hundred years, has become familiar. Often I think of those who have come before me over the centuries – silent companions. I splash my face with cold water, pull on some clothes and a raincoat, my footsteps echoing in the high-ceilinged hall with the others' as we assemble to begin our day with a period of silence.

The studies are intensive and rich; there are plenty of opportunities to interact with students, staff, faculty as we do chores and recreational things outside of instruction time. The bonds that are forming have the potential to be deep and long-lasting. I feel the power in the shared sense of purpose permeating the whole environment. It feels like learning in this way is really meaningful, and I cherish this opportunity to live these values, to embody our studies ... this is how education ought to be!!

– from the imagined diary of Kari Berger as a Schumacher College student.

Society is in urgent need of fresh educational models; Schumacher College is just such a one: a radical blueprint for a new kind of learning respecting not only intellectual understanding but the earth and a sense of the sacred.

– Satish Kumar, Director

Located on part of an 800-acre estate in South Devon, England, stands a building called the Old Postern, built in 1380. Nearby are woodlands, a fourteenth century courtyard, and landscaped gardens of Dartington Hall – venerable surroundings for a radical experiment.

Schumacher College, "a school of ecological and spiritual studies," will open in January, 1991 – 611 years after the Old Postern building came into being. Its purpose is to make widely accessible an education in touch with the profound changes taking place in our culture. It is a place where people of all nationalities and backgrounds can enjoy a period of intensive study, practical activity, and contemplation.

The College is named for E. F. Schumacher, best known for *Small Is Beautiful*, a book whose title has passed into the language as a charm against all that is dehumanizing in industrial societies. Schumacher also promoted the idea of "intermediate technology" as a remedy for the inappropriate application of advanced Western technology in the Third World.

Schumacher was convinced that the Western way of life would be destroyed by its inherent contradictions. Suspicious of panaceas, he sought to develop modest initiatives based on what he called the human-scale, conjoining the spiritual and the practical. The College that now bears his name seeks to promote those human values in which Schumacher so passionately believed; it is a tribute to his achievement.

The curriculum is made up of three parts – the Main Course, the Foundation Studies, and the *enactment* of the academic work in the daily routine of life at the college. Students and core faculty (resident staff) alike are responsible for gardening, cleaning and cooking, which contributes to the meditative spirit in which the College is founded.

Students reside on the grounds to attend intensive main courses for two to five weeks at a time. A course is led by the Scholar-in-Residence who gives a series of seminars in her or his interest area. The scholars are people chosen for the significance and originality of their work, and for their accomplishment as communicators.

Resident staff and visiting lecturers support each course with foundation studies, on topics which provide a context for the main course themes.

Part of the student's work is producing "some tangible evidence of their inquiry," usually developed in consultation with a personal tutor. This project may take a variety of forms, and it may be a group or collaborative effort. Assessment comes at the request of the student. Certificates of Attendance are given upon completion of a course.

Because the issues raised during courses are of great importance and can seldom be separated from questions of personal transformation, students must expect to find the work emotionally as well as intellectually demanding. It should be understood that there is no particular system of belief put forth by the College, nor is it a counseling center; it encourages open inquiry and a high level of mutual support.

The twin convictions that underpin Schumacher College are these: that the rational and scientific view of the world that has so dominated Western civilization is incomplete, and that new vision is needed to sustain the Earth. Accordingly, it represents a pioneering attempt to establish a center in which the conceptual, social and moral dimensions of new world-views can be put to the test.

Only 40 students participate in each course. Those who will find "active retreat" time at Schumacher College especially valuable are people who:

- would like to contribute to a long-term inquiry into the condition of contemporary society
- want to understand what lies behind economic, social and political attempts to create a more sustainable society
- are already engaged in work that has an impact on the shape of

society and the behavior of people in the community

• believe that the dynamics of personal, social and cultural change are inextricably bound together.

The Program for 1991 includes James Lovelock on The Health of Gaia; Helena Norberg-Hodge on Ancient Wisdom – The Relevance Of Traditional Culture in the Post-Industrial Age; Hazel Henderson on Life Beyond Economics; Rupert Sheldrake on The Rebirth Of Nature; Victor Papanek on Design for the Real World; Theodore Roszak on Earth, Soul and the Imagination; and others sure to be familiar to readers of this magazine.

The College's founder and director is Satish Kumar, the founding editor of *Resurgence*, a British elder cousin to *IN CONTEXT* with a strong focus on sustainability and ecologically humane values. Satish was raised in the Jain tradition of non-violence and was also deeply influenced by the teachings of Gandhi. Nearly three decades ago, with a companion, he walked for two and a half years over thousands of miles to carry the message of peace from people he met to top government officials in Europe, Japan, the Soviet Union and the United States. They travelled with no money, relying on the kindness of strangers as an act of mutual trust (see "Walking the World for Peace," *IC* #17).

For full prospectus and detailed College program, write to:

Anne Phillips
Schumacher College
Dartington
Totens, Devon
England TQ9 6EL
Fax: 0803-865551

– Kari Berger

It is no longer possible to believe that any political or economic reform or scientific advance could solve the life-and-death problems of the industrial society. They lie too deep, in the heart and soul of every one of us.

– E. F. Schumacher

A NEW SCHOOL FOR IUKA, MISSISSIPPI

Iuka, a small town in Tishomingo County in northeast Mississippi, is the site of a large new NASA and Lockheed/Aerojet rocket engine production facility, which is expected to create 1,500 jobs. Many of these will be filled by transferred employees.

To encourage these employees to live in the area, as well as to serve local residents, Mississippi's Department of Economic and Community Development is investing in an innovative new high school for 800 students. A major goal is to design the school as a lively, active Community Learning Center with public access to many of the facilities. Community members' hand prints, cast in plaster, will be incorporated into the decoration of the buildings.

The following is an excerpt from the Project Synopsis for Iuka/Tishomingo School prepared by Steven Bingler. Contact Bingler at Concordia Architects, 621 Decatur Street, New Orleans, LA 70130, 504/525-1862.

Architectural Exhibitry: Math and Science • The central plaza that provides for circulation between the center's primary educational components also illustrates math and science (astronomical, geometric and ecological) principles in a tangible exhibit.

Iuka and Tishomingo were both chiefs of the native American Chickasaw Nation. The movement of the sun and stars was integral to their cosmology. The building's secondary axis aligns to the east with the sunrise on the summer solstice and to the west with sunset on the winter solstice.

A series of five towers on the plaza's southern periphery commemorate the sun's position at 9:00 a.m. and 3:00 p.m. on the summer and winter solstice as the sun pierces apertures in the towers and focuses on a map of the world with Iuka Tishomingo at the center. A sixth tower aligns with a 35-degree triangular incline pointing to Polaris, the north star.

The triangular incline also serves (because of astronomical geometric alignments) as an element of a 70-foot long elliptical sundial that tracks time continuously and casts shadows across the sundial's face. The numbers of the sundial are large enough to serve as benches where students can sit and watch the geometry of the universe in motion.

A low-powered laser located in the Polaris Tower casts a harmless red beam down the triangular inclination, where it strikes Iuka/Tishomingo at the center of the world map and is reflected vertically by a mirror along a geocentric axis. Along the inside face of the circular covered walkway are markings delineating compass bearings. The plaza paving, which is also made of local stone, also delineates the cardinal directions by color, yellow for the east, white for the south, red for the west, and black for the north, in accordance with Chickasaw Indian tradition.

A BRIEFING ON THE ECO '92 CONFERENCE

By now it is fairly common knowledge that the United Nations has called for a global conference on environment and development to be held in Brazil in June, 1992. This conference – "ECO '92" – will take place during the 20th Anniversary of the Stockholm Conference, the last major global environmental gathering. Maurice Strong, Secretary General of that conference, will once again fill this role in Brazil.

Strong has called for as broad a participation by citizens and the "independent sector" (any non-governmental organization, or "NGO" – women's groups, youth, trade unions, religious groups, etc.) as possible. For that reason, it is important for any non-profit or non-governmental organization to learn how that group can participate in national and regional input for this conference.

Transboundary global problems such as desertification, unsustainable development practices and the depletion of the ozone layer were parts of the central focus of the World Commission on Environment and Development. In 1987, the WCED produced the Brundtland Report, *Our Common Future*. *Immediate* changes in the perceptions of individuals, nations and institutions were called for.

Following the report the WCED disbanded and The Centre for Our Common Future was formed. The Centre, under the direction of Warren (Chip) Lindner, has been serving as a channel for information both to and from its working partners on ways in which the concept of sustainable development can be implemented locally, regionally and globally. (Contact the Centre at Palais Wilson, 52 rue des Pacquis, CH1201, Geneva, Switzerland, Tel. 022/732 7117, Fax 022/738 5046.)

The Brazil Conference will elaborate strategies for implementing sustainable development – and, it is hoped, pronounce time frames in which specific actions must occur for humankind and the planet to have *any* future.

All NGOs should be aware of the background of preparations for the conference during the past year. In December of last year, the United Nations mandated the conference to coincide with World Environment Day, June 5, 1992. Preparatory meetings within the UN are being held every six months.

Anything is possible for any group if the group realizes that they are a distinct voice.

Regional meetings are also being held. For example, one for the European Community took place last March in Vienna and Budapest, with working sessions taking place on a boat on the Danube River. When the NGO delegates from 35 nations were not busy in working groups, the views of the pollution in and around the river were obvious spurs for finding solutions to common problems.

That four-day conference produced a document, *Bridging the Gap*, which the NGOs presented to the governments, who were to meet two months later in Bergen, Norway to issue a ministerial declaration on actions the governments would take to solve environmental and developmental problems. *Bridging the Gap* was considered by NGOs to be the floor from which governments should act. Many governments, however, felt that *Bridging the Gap* was a ceiling up to which they *could* go – with many reservations.

One of the most popular parts of *Bridging the Gap* was a charter for nature rights, and some delegations, including most notably the Soviets, were in favor of some treatment of this topic at Bergen and eventually in Brazil. But the US and the UK blocked a great deal of specificity regarding aid to the developing world for cleaning up their environment and for pushing ahead for reductions in CO_2 emissions. As Fran Spivy-Weber, Director of International Programs at National Audubon Society in Washington, DC, noted: "To organize a meeting that seeks broad-based, informed citizen participation is an ideal that is hard to achieve. What [we] learned from Bergen is that the meeting itself is secondary to its being a deadline by which time groups must think through ... their goals and objectives for the future."

It is extremely important for all groups in society – whether focused on environment, development, peace and justice, human rights, business women, or any other issue – to participate in this process. Small citizens' groups and even advocates of those who are homeless should join the process now. Don't wait for an invitation – just act. To give an example of democracy in action, our small grass-roots organization in New York City, Concerned Citizens Speak, participated in the Danube Conference and was an observer in Bergen. Anything is possible for *any* group if they realize that they are as distinct a voice as a group with 20,000 members.

The '92 process is one of crucial importance in teaching all of us ways in which to act together to solve common problems. Just one thing: this invitation requires an RSVP– NOW!

– Richard Jordan

Richard Jordan is Vice President of Concerned Citizens Speak , 26 Gramercy Park, New York, NY 10003, 212/673-9398. Other groups to contact are the United Nations Association of the USA (202/347-5004), Global Tomorrow Coalition (202/628-4016), and Interaction (202/822-8429).

TRANSFORMATION IN SAN MIGUEL DE ALLENDE

For years my husband and I have been doing whatever we could to move into a fuller expression of service to humanity. The greatest leap in faith occurred almost two years ago, when we left our financial security behind, decided we'd rather live more simply, and dedicated our energy full time to the environment through our organization, Tierra Madre (Earth Mother). It seemed to be the most practical way to demonstrate the values we hold sacred.

Having been in the construction business full time and real estate part time, we had a comfortable home. One day, while sitting on the highest level terrace, overlooking our beloved town, something snapped in us. It no longer seemed possible for us to build new homes for the rich. How could we worry about a few bathrooms when the entire drainage system for the city was posing serious health threats?

And so the journey began. We vowed to cut expenses and live off a small income from our rentals and started a project for creating a sustainable city, called "San Miguel 2000." We felt this project would appeal to a wide range of the population and provide the arena for creating coalitions among the many service groups already in existence.

It worked. Forming coalitions has lead to many successful endeavors. A two hundred acre oak forest reserve (some of the last remaining oaks in the area) along with land for a botanical garden specializing in endangered cacti and medicinal herbs was purchased by *Can te*, a non-profit that has successful projects throughout the country. A tree nursery was started with the help of the local Audubon Chapter (the only one in Mexico). Many other local groups have taken individual initiatives on behalf of the environment.

The municipal government has even added an environmental committee, which includes us as assessors. We purchased a work/water truck, opened a resource center which functions as a regional networking base, put together video presentations for the local schools and have held two conferences – "Our Common Future" and "Solving the Garbage Problem." We have also had excellent coverage in both the national and local press.

One of my guiding visionary statements for the project was actually taken from the first issue of *IN CONTEXT*, "Being a Planetary Villager." After rereading Ronald Jorgenson's article "The Planetary City," I felt that his was an aim within our reach when he spoke of "A city of consciousness ... a place that would harmoniously relate the planet's possibilities of wilderness and urbanity ... a microcosmic expression of the earth in one city that could eventually reseed itself in the most diverse localities...."

What are we leaving to future generations? A barren desert, or a green garden? It is we who choose.

We have no illusions that this will be a simple feat. We have learned how hard it is to be a 24-hour volunteer and how easy it is to become burned out. We have found out how enthusiastic ideas have little to do with the reality of carrying a project to completion. We've realized that working in groups can be both the most exhilarating and exasperating task around. Nothing has been easy. And it has been worth everything.

What started as a bunch of good ideas has borne fruit. What we have lacked in financial resources we have made up in human resources. It does go to show that a few people with vision can eventually make a difference.

At a time when my husband and I were questioning the financial reality of being able to continue full time, Ashoka: Innovators for the Public (see *IC* #24) selected my husband, Emilio Gonzalez, as an Ashoka associate. I find it quite an honor, as Chico Mendes was also becoming an associate before his death.

But even with gracious support from the local community, the Ashoka grant, and thousands of hours of volunteer work, we feel inadequate in meeting the true needs of the times. We are exploring, as the Brundtland Commission Report "Our Common Future" emphasizes, the linking of economics and ecology. We are looking at options for creating a low-cost ecological building company, manufacturing solar ovens and water distillers, and marketing water-saving devices for agriculture. Without such means of self-sustenance we will never be able to catch up with the crisis. It is our hope that one of these ideas will come to fruition so that we can continue the project of San Miguel 2000.

In addition, we were so busy worrying about the planet that we forgot to take care of ourselves, our family and our home. It is so easy to become caught up in the urgency of the crisis that many forget that true ecology starts within. We must find the way of balance. If we are to become caretakers and nourishers of the Earth, we must do the same for each other as well as ourselves.

Never has humanity had the choice of determining the future to the extent we have today. So, what will it be? What are we leaving to future generations? Unbreathable air and poisoned water? A barren desert or a green garden? It is we who choose.

– Patricia Gonzalez

Patricia Gonzalez coordinates Tierra Madre. Contact her at Correo 17, San Miguel de Allende, Guanajuato, 37700, Mexico, Tel. (465) 2-24-97.

THE LEARNING REVOLUTION

A Personal Introduction, by Alan AtKisson

In the course of producing this issue, we at *IN CONTEXT* were often prompted to reflect on our own educations. In my case, the memories are mixed. I attended a pleasant, church-run elementary school through the sixth grade, with small classes and retirement-age teachers who seemed to enjoy teaching a great deal.

The technologies of learning in this issue could transform the schools of the world.

But in seventh grade I moved to the public school system. In my memory, Stonewall Jackson Junior High School in Orlando, FL, seems more like a jail than a school. From the outside, it looked menacing – metal shutters on all the windows, lots of chain-link fence, an atmosphere of foreboding. Like most of my friends, I tried to avoid getting beaten up, or singled out as "different," while the administrators tried to pretend that puberty wasn't happening all around them on a massive scale. How many of us remember our adolescence as a time of bewildering imprisonment?

High school and the first years of college were, in the reductionism of hindsight, not much more than a series of hoops to jump. It wasn't until late in my university career, when I started volunteering at a runaway shelter in New Orleans' French Quarter, that I really began to feel educated in the root sense of the term ("educare" means "to bring forth" in Latin). The young people I was supposed to be helping – and my colleagues on the staff – taught *me* a great deal. I owe a part of my soul to those people, with their tremendous courage and suffering and defiant humor.

But while the overall tone of my memories of *school* is less than positive (ironically, "school" comes from the Greek word for "leisure"), my feelings for particular *teachers* amount to nothing less than immense gratitude. The best of them were deeply caring, committed people who exercised imagination and morality, often against overwhelming institutional odds. I can link many of my best choices in life to their positive influence – in the form of an informal conversation, an innovative classroom exercise, or a tersely-worded challenge on an exam paper – guiding me and showing me how to "bring forth" my *self*.

Isn't that what what we want for ourselves, and for our children – that bringing forth? Isn't that what our planet needs now, more than ever?

It goes without saying that the crisis in our schools reflects a broader social crisis, and that the vast majority of teachers and administrators – in child as well as adult education – want only the best for the students in their care. It's *imperative* that they be empowered to do their work better than it has ever been done before. We are in a time when the destructive power of our ignorance is casting cold shadows across our knowledge – and the integrity of many species, cultures, and natural systems is being eclipsed in the process.

But a *total* eclipse is far from inevitable. This issue of *IN CONTEXT* is filled with tools and insights to help speed a revolution in learning – and a faster evolution for the human race. Multiple intelligence theory, accelerated learning, multicultural education, "Earthwise" curricula – these are elements of an entirely new paradigm in education. If applied universally, the technologies of learning in this issue could transform the schools of the world in short order.

Most of the innovations described here are social and cultural, not electronic. They don't require fancy machines or large amounts of money to implement. With a little effort, practically anyone can understand them. The principal requirements are an open mind, a desire to help oneself and others excel, and a willingness to experiment. The great human thirst to *learn* does the rest.

We at *IN CONTEXT* hope you are inspired by these examples of educational success and clear thinking. We also strongly encourage you to **share this information** with teachers, school officials, university education departments, business educators, and learners of all ages. Learning is not just about schools; it's about individual and cultural development. *Everyone* is a learner, and advances in learning must concern all of us – for by the spread of such new and powerful knowledge, cultures can be transformed. ▲

Alan AtKisson is the son of two teachers and the executive editor of IN CONTEXT.

ONWARD AND UPWARD!

by Dee Dickinson

The revolution has begun. Thousands of classrooms, hundreds of schools, and many school districts – under the leadership of visionary superintendents and supportive school boards – are experiencing *success*. That this should be considered a revolution is a sad commentary on our times, but it is a fact that many school systems predict and produce failure. And they accept it.

The successes that *are* being experienced are the result of recognizing and meeting the needs of an extraordinarily diverse population of students. To meet those needs, it is essential to recognize the many different ways they have of learning and processing information. It is essential that at least part of the time they have opportunities to learn through their strengths, and that they also have opportunities to stretch into new ways of using their minds to develop the capacities for lifelong learning.

Not all teachers, however, have the training to help students from different cultural, social, and educational backgrounds – students who have different kinds of abilities and disabilities. Many universities do not yet have the kind of certification programs that provide these essential skills, and many school districts do not offer them comprehensively in their in-service programs.

Even with strong educational backgrounds, large numbers of teachers still cannot cope with the overwhelming physical, emotional, and social needs of today's students. Many children are physically and emotionally abused, and a growing number come into the world addicted to drugs or alcohol. Without strong support from social service, health, and welfare agencies and school counselors, it is nearly impossible for many teachers to teach.

Even with those needs met, teachers must have as well the understanding and support of their colleagues, principals, central office administrators, school boards, and community members. Teachers must have the time available for collaborative planning and problem-solving, and to share ideas and lesson plans with each other. Turf wars, petty jealousy, inflexibility and unwillingness to change have no place in educational systems. Schools should be places in which successful programs and strategies can be eagerly shared, reinforced, and rewarded.

Learning for today's world is a lifelong process. It must begin in the home with well-informed parents or care-givers. If Venezuela can use existing institutions like maternity hospitals, the media, community centers, clinics and schools to educate the *entire* population on ways to lay the foundations for the healthy mental, physical, and emotional development of its children, surely the United States should be able to do no less.

It is important – and *essential* – that agreement be facilitated among governors, legislators, teachers, superintendents, presidents of educational organizations, school board members, heads of business and community organizations, and students themselves on the basics of what students need to know in order to survive and thrive in today's world. And could not these individuals and groups then collaborate on deciding what teachers need to know in order to help students learn? And what university education departments, teachers unions, and in-service programs need to offer teachers in order for them to master that knowledge? And what principals need to know to support their teachers? And what superintendents need to know to empower their principals? And what school boards need to know to make it possible for superintendents to be true educational leaders? And what parents and community members need to know to create a positive context in which real learning can take place?

Such a collaborative, revolutionary effort may be the only way to build real learning communities out of which will come the creators of the future. In this issue of *IN CONTEXT* we offer a number of ideas to fuel the revolution so that every child may have the opportunity to become an independent, cooperative, productive, creative and ultimately self-actualizing member of society. ▲

Guest Editor Dee Dickinson is President and Founder of New Horizons for Learning (NHFL), an international network of education innovators. She co-edits the network's newsletter, "On The Beam," and is the author or editor of several books forthcoming in 1991, including Freedom to Learn *and* New Horizons for Learning: Creating an Educational Network.

Multiple Intelligences In The Classroom

Of the seven different ways we learn, schools focus on only two. Add the other five, and you increase the chances of success

by Bruce Campbell

The story of much recent innovation in education follows a familiar pattern: the theory of an innovative thinker (in this case, Harvard's Howard Gardner) gets applied by an innovative practitioner (third grade teacher Bruce Campbell), who puts the flesh of action on the bones of thinking. Along the way, theories get substantiated, the subjects of the successful experiment benefit greatly – and, as Bruce Campbell reports in this self-interview, the experimenter is forever altered.

Bruce, together with his wife Linda MacRae-Campbell and Dee Dickinson (Dee and Linda are guest editors for this issue), is currently co-authoring a book titled LearningWorks: Teaching and Learning through the Multiple Intelligences. *Contact the Campbells at 19614 Soundview Drive, Stanwood, WA 98292, 206/652-9502.*

> *If we are to achieve a richer culture, rich in contrasting values, we must recognize the whole gamut of human potentialities, and so weave a less arbitrary social fabric, one in which each diverse human gift will find a fitting place.*
>
> *– Margaret Mead*

Bruce Campbell's 3rd graders perform a song composed in the music center.

In recent years, new definitions of intelligence have gained acceptance and have dramatically enhanced the appraisal of human competencies. Howard Gardner of Harvard University in his book, *Frames of Mind: The Theory of Multiple Intelligences*, suggests that there are at least seven human intelligences, two of which, *verbal/linguistic* intelligence and *logical/mathematical* intelligence, have dominated the traditional pedagogy of western societies.

The five non-traditional intelligences, *spatial, musical, kinesthetic, interpersonal* and *intrapersonal*, have generally been overlooked in education. However, if we can develop ways to teach and learn by engaging all seven intelligences, we will increase the possibilities for student success and create the opportunity to, in Margaret Mead's words, "weave a social fabric in which each diverse human gift will find a fitting place."

How can the Multiple Intelligences be implemented in the classroom?

To implement Gardner's theory in an educational setting, I organized my third grade classroom in Marysville, Washington, into seven learning centers, each dedicated to one of the seven intelligences. The students spend approximately two-thirds of each school day moving through the centers – 15 to 20 minutes at each center. Curriculum is thematic, and the centers provide seven different ways for the students to learn the subject matter.

Each day begins with a brief lecture and discussion explaining one aspect of the current theme. For example, during a unit on outer space, the morning's lecture might focus on spiral galaxies. In a unit about the arts of Africa, one lecture might describe the Adinkra textile patterns of Ghana. After the morning lecture, a timer is set

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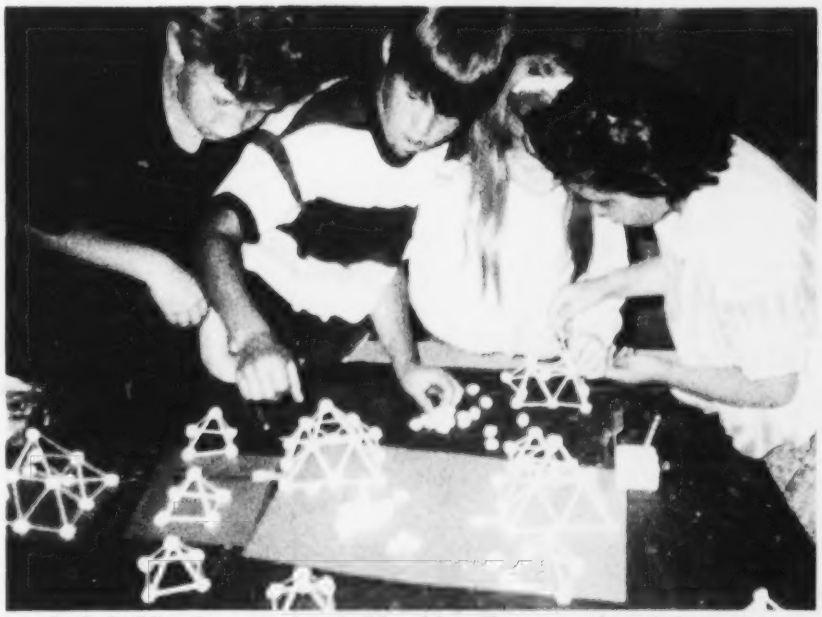
and students – in groups of three or four – start work at their centers, eventually rotating through all seven.

What kinds of learning activities take place at each center?

All students learn each day's lesson in seven ways. They build models, dance, make collaborative decisions, create songs, solve deductive reasoning problems, read, write, and illustrate all in one school day. Some more specific examples of activities at each center follow:

- In the **Personal Work Center** (Intrapersonal Intelligence), students explore the present area of study through research, reflection, or individual projects.
- In the **Working Together Center** (Interpersonal Intelligence), they develop cooperative learning skills as they solve problems, answer questions, create learning games, brainstorm ideas and discuss that day's topic collaboratively.
- In the **Music Center** (Musical Intelligence), students compose and sing songs about the subject matter, make their own instruments, and learn in rhythmical ways.
- In the **Art Center** (Spatial Intelligence), they explore a subject area using diverse art media, manipulables, puzzles, charts, and pictures.
- In the **Building Center** (Kinesthetic Intelligence), they build models, dramatize events, and dance, all in ways that relate to the content of that day's subject matter.
- In the **Reading Center** (Verbal/Linguistic Intelligence), students read, write, and learn in many traditional modes. They analyze and organize information in written form.
- In the **Math & Science Center** (Logical/Mathematical Intelligence), they work with math games, manipulatives, mathematical concepts, science experiments, deductive reasoning, and problem solving.

Following their work at the centers, a few minutes are set aside for groups and individual students to share their work from the centers. Much of the remainder of the day is spent with students working on independent projects, either individually or in small groups where they apply the diverse skills developed at the centers. The daily work at the seven centers profoundly influences their ability to make informative, entertaining, multimodal presentations of their studies. Additionally, it is common for parents to comment on how much more expressive their children have become at home.



In the Building Center, students build models to illustrate mathematical concepts.

What are some of the results of this program?

During the 1989-1990 school year, an action research project was conducted in my classroom to assess the effects of this multimodal learning format. A daily teacher's journal was kept with specific entries recording the following:

- general daily comments
- a daily evaluation of how focused or "on-task" students were
- an evaluation of the transitions between centers
- an explanation of any discipline problems
- a self-assessment – how the teacher's time was used
- tracking of three individuals, previously identified as students with behavior problems.

In addition, a Classroom Climate Survey was administered 12 times during the year, a Student Assessment Inventory of work at the seven centers was administered nine times during the year, and a Center Group Survey was administered eight times during the

If we can develop ways to teach and learn by engaging all seven intelligences, we will increase the possibilities for student success.

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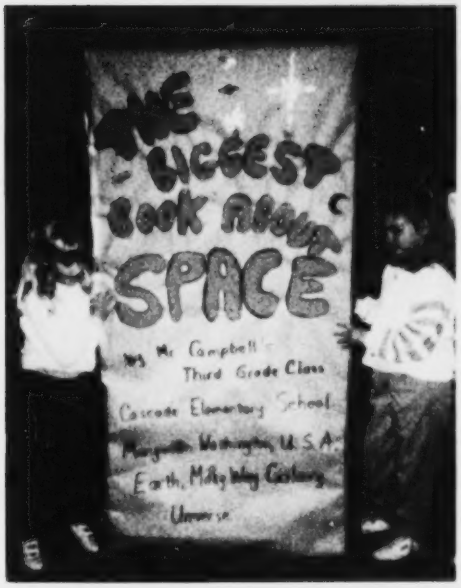
year.

The research data revealed the following:

1. *The students develop increased responsibility, self-direction and independence over the course of the year.* Although no attempt was made to compare this group of students with those in other third grade classes, the self-direction and motivation of these students was apparent to numerous classroom visitors. The students became skilled at developing their own projects, gathering the necessary resources and materials, and making well-planned presentations of all kinds.



2. *Discipline problems were significantly reduced.* Students previously identified as having serious behavior problems showed rapid improvement during the first six weeks of school. By mid-year, they were making important contributions to their groups. And by year's end, they had assumed positive leadership roles which had not formerly been evident.

Students learned not only to respect each other, but to appreciate and call upon the unique gifts and abilities of their classmates.

3. *All students developed and applied new skills.* In the fall, most students described only one center as their "favorite" and as the one where they felt confident. (The distribution among the seven centers was relatively even.) By mid-year, most identified three to four favorite centers. By year's end, every student identified at least six centers which were favorites and at which they felt skilled. Moreover, they were all making multimodal presentations of independent projects including songs, skits, visuals, poems, games, surveys, puzzles, and group participation activities.

4. *Cooperative learning skills improved in all students.* Since so much of the center work was collaborative, students became highly skilled at listening, helping each other, sharing leadership in different activities, accommodating group changes, and introducing new classmates to the program. They learned not only to respect each other, but also to appreciate and call upon the unique gifts and abilities of their classmates.

5. *Academic achievement improved.* Standardized test scores were above state and national averages in all areas. Retention was high on a classroom year-end test of all areas studied during the year. Methods for recalling information were predominantly musical, visual and kinesthetic, indicating the influence of working through the different intelligences. Students who had previously been unsuccessful in school became high achievers in new areas.

In summary, it is clear that students' learning improved. Many students said they enjoyed school for the first time. And as the school year progressed, new skills emerged: some students discovered musical, artistic, literary, mathematical and other new-found capacities and abilities. Others became skilled leaders. In addition, self-confidence and motivation increased significantly. Finally, students developed responsibility, self-reliance and independence as they took an active role in shaping their own learning experiences.

What is the teacher's role in a Multiple Intelligences program?

The teacher's role also transforms in this type of program. I developed skills different from those I would develop by standing in front of a class lecturing each day. I need to observe my students from seven new perspectives. In planning the centers, I find I am pushing my students from behind rather than pulling them from in front. Also I am working *with* them, rather than *for* them. I explore what they explore, discover what they discover, and often learn what they learn. I find my satisfaction in their enthusiasm for learning and independence, rather than in their test scores and ability to sit quietly. And most importantly, because I am planning for such a diversity of activities, I have become more creative and multimodal in my own thinking and my own learning. I can now comfortably write and sing songs. I am learning to draw and paint. I see growth and development within myself. I sometimes wonder who is changing the most, my students or myself.

Why is a Multiple Intelligences model successful?

The reasons for the academic and behavioral success of the program appear to be twofold. First,

every student has an opportunity to specialize and excel in *at least* one area. Usually, however, it is three or four. In the two years since this program was initiated, I have not had one student who was unable to find an area of specialty and success. Secondly, each student learns the subject matter in a variety of different ways, thereby multiplying chances of successfully understanding and retaining that information.

Many student needs are met through this program. Their intellectual needs are met by constantly being challenged and frequently exercising their creativity. At the same time, their emotional needs are met by working closely with others. They develop diverse strengths, and they understand themselves better as individuals.

The emphasis in such a program is upon *learning* rather than teaching. The students' interests and developmental needs dictate the direction of the program. Such a model adapts to students, rather than expecting students to adapt to it. From my own classroom experiences, I believe that teaching and learning through the multiple intelligences helps solve many common school problems and optimizes the learning experience for students and teachers alike. Again following Margaret Mead, if we educate to engage the "whole gamut of human potentialities" in the classroom, society will benefit by enabling "each diverse human gift to find its fitting place." ▲

I sometimes wonder who is changing most – my students or myself.

Four Factors In Educational Reform

Many of us interested in efforts at educational reform have focused on the learner or student, be she a young child in preschool or an adult bent on acquiring a new skill. It is clarifying to have such a focus and, indeed, any efforts at reform are doomed to fail unless they concentrate on the properties and potentials of the individual learner. My own work on multiple intelligences has partaken of this general focus; colleagues and I have sought to foster a range of intellectual strengths in our students.

But after several years of active involvement in efforts at educational reform, I am convinced that success depends upon the active involvement of at least four factors:

Assessment • Unless one is able to assess the learning that takes place in different domains, and by different cognitive processes, even superior curricular innovations are destined to remain unutilized. In this country, assessment drives instruction. We must devise procedures and instruments which are "intelligence-fair" and which allow us to look directly at the kinds of learning in which we are interested.

Curriculum • Far too much of what is taught today is included primarily for historical reasons. Even teachers, not to mention students, often cannot explain why a certain topic needs to be covered in school. We need to reconfigure curricula so that they focus on skills, knowledge, and above all, understandings that are truly desirable in out country today. And we need to adapt those curricula as much as possible to the particular learning styles and strengths of students.

Teacher Education • While most teacher education institutions make an honest effort to produce teaching candidates of high quality, these institutions have not been at the forefront of efforts at educational improvement. Too often they are weighted down by students of indifferent quality and by excessive – and often counterproductive – requirements which surround training and certification. We need to attract stronger individuals into teaching, improve conditions so that they will remain in teaching, and use our master teachers to help train the next generation of students and teachers.

Community Participation • In the past, Americans have been content to place most educational burdens on the schools. This is no longer a viable option. The increasing cognitive demands of schooling, the severe problems in our society today, and the need for support of students which extends well beyond the 9-3 period each day, all make it essential that other individuals and institutions contribute to the educational process. In addition to support from family members and other mentoring adults, such institutions as business, the professions, and especially museums need to be involved much more intimately in the educational process.

Too often, Americans have responded to educational needs only in times of crisis. This is an unacceptable approach. Education works effectively only when responsibility is assumed over the long run. We have made significant progress in this regard over the past decade. There is reason to be optimistic for students of the future, as dedicated individuals continue to collaborate in solving the challenging educational problems of our time.

– Howard Gardner

Dr. Howard Gardner is a Professor of Education and Co-chair of Project Zero at Harvard University. He is the author of nine books, including Frames of Mind: The Theory of Multiple Intelligences *(1983), and* To Open Minds: Chinese Clues to the Dilemma of Comtemporary Education *(1989).*

LEARNING AS TRANSFORMATION

Learning is the evolution of consciousness, and organizations are learning communities that foster that evolution

by Harrison Owen

Harrison Owen, author of Spirit: Transformation and Development in Organizations *and* Leadership Is, *has been involved in learning-as-transformation for many years. A long-time student of the nature and function of myth, ritual, and culture, he has served as an organizational consultant to a wide variety of organizations. In the 1960s and 1970s he worked with such diverse entities as the National Institutes of Health, the Veterans Administration, and several West African villages.*

Since forming H.H. Owen & Co. in 1977, his client list has ranged from Procter and Gamble to India's Taj Hotel Group, and from U.S. West to the U.S. Army. This list might seem rather unlikely after reading this essay on learning and the evolution of spirit – but such is the transformational nature of our times. Contact H.H. Owen & Co. at 7808 River Falls Drive, Potomac, MD 20854, 301/469-9269.

At their moment of greatest learning, people reported feelings ranging from discomfiture to outright terror.

At a conference I once attended, V.S. Mahesh, an Indian colleague, reported on a survey he had done with over 5,000 people. He asked them to remember their moment of greatest learning, and then to recall the feelings associated with that moment. The responses were remarkably consistent. People reported that, at the onset of the moment, there were feelings ranging from discomfiture to outright terror. This was followed by a sense of emptiness, which was at once awful and full of awe. At the conclusion – after the moment/event – the feeling shifted to joy, celebration, release.

My presentation immediately following concerned the process of transformation as experienced in organizations: the passage of one way of doing business, entry into the void (where it seems that there is no way of doing business), and on to whatever it is that comes next. From my experience, the way stations of this passage replicate the stages of Griefwork as usually described in the individual encounter with death – either one's own, or the death of a significant other.

The stages are, in my version, 1) Shock/Anger; 2) Denial; 3) Memories; 4) Open Space – which begins as despair and ends as hope; 5) Imagination; and 6) Vision, experienced as triumph and resolution. I think these stark words communicate enough of the realities to make the point that what Mahesh saw as learning, I saw as transformation – and in fact, we were both looking at the same thing. Which brings me to the starting point of this piece: Transformation is real learning, and real learning is Transformation.

Learning, at its root, is nothing more nor less than the evolution of consciousness. From that it would seem the central role of the organization, as a learning community, is to facilitate that growth in consciousness, both in the individuals involved and in its collective manifestation – what we might call "organization consciousness." None of this is to suggest that the bits and pieces of learning as ordinarily talked about (bodies of knowledge, skills and attitudes) are unimportant. Rather, all of these require a *context*, and that context is the state or level of consciousness achieved by the organization and the individuals involved.

Thomas Kuhn, in his *Structure of Scientific Revolutions*, helps us to understand that the growth of science did not take place in the nice linear, developmental way many of us have taken for fact. Rather, the major growth occurred in non-linear, quantum jumps with the emergence and passage of what Kuhn calls "paradigms," or ways of looking at things.

There was, for example, a time when the world was understood to be a flat dish under a dome of velvet, with the stars dangling as diamonds from the firmament. That was the paradigm of Babylon, and there emerged a body of knowledge (Babylonian Astronomy) and set of skills and attitudes appropriate to that paradigm. It all worked very well until some discrepancies were noted that could not be fitted into the standard view. For a time, exceptions to the rule were allowed, until it became clear that the exceptions were *greater* than the rule. At that moment, the paradigm shifted, and a new paradigm emerged – call it Copernican. The good news was that things made more sense. The bad news was that the bodies of knowledge, skills and attitudes appropriate to the old paradigm were no longer functional. Even worse, folks were none too happy to make the switch. Indeed some of them were downright resistant, not to say rebellious. The shift in paradigms may be exciting, but it is also exceedingly painful.

And so things have progressed from Copernicus to Galileo, to Newton, to Einstein (roughly speaking). With each new paradigm came a new set of knowledge, skills and attitudes (KSAs). The old KSAs, of course, would continue to work, but only in their context.

It appears then that learning comes in two forms: what we might call High Learning and Normal Learning (to borrow and modify Kuhn's High Science and Normal Science). High Learning is what occurs in those moments of *quantum leap*, when the paradigm shifts. Normal Learning is what happens in between as we refine and make further sense out of the new and different point of view. Both sorts of learning are essential; but they can never be confused, nor are they interchangeable.

If we accept the notion that learning is transformation (and vice versa), and further that the primal role of the learning community is the facilitation of that transformation – i.e., the evolution of consciousness – it would seem that we need to talk further, and with some precision, about the stages of consciousness and the learning process.

The Journey Of Spirit

Borrowing from some of my earlier work (*Spirit: Transformation and Development in Organizations*, Abbott, 1987) and the work of many others, allow me to offer a structure within which we might think. This structure is certainly not the only one, nor the best, but it is a place to start.

What is "it" that evolves? Up to this point, I have used the word "consciousness," and then in the section heading above, I introduced the word "Spirit." In a traditional Indian setting, a more usual word would be "mind." Each of these (Spirit, Mind and Consciousness) has its own special contribution; but they all, I think, point to that ineffable essence from which we have come, and to which we return, whatever and whenever that may be.

There was a time when the world was understood to be a flat dish under a dome of velvet, with the stars dangling as diamonds from the firmament.

My preferred word is Spirit because it spans a range of applications, from "Team Spirit" to "Cosmic Spirit." Consciousness may be more precise, but in the workplace it is hard to generate a great deal of enthusiasm for the notion of "Team Consciousness," even though that may be very important. As for "mind," I have a special use for that one (see below) so I wish to reserve it for that application. The bottom line is that I prefer to use the word Spirit, but please use any word that works for you.

Building upon the very ancient understanding of how Spirit evolves, it seems that we go from a state of inchoate Spirit, down progressively into concreteness, on to individuation, and emerge finally as the fulfillment of that which we really are – Spirit. The stages along the way may be identified and represented as follows (reading from the bottom up):

Spirit
Soul
Intellect
Mind
Body

When Spirit first appears in the world, it is manifest as *Body*. The good news is that it is really there, but there are limitations. Operating at the level of Body, our awareness (consciousness) is restricted to basic needs. Some folks spend their whole lives here and never move beyond. But there is a Beyond, which I call Mind.

Mind is the manifestation of Spirit in which we have the right words to define and differentiate reality, so that we can begin to *think* about it. We may not understand what it is all about, and that is a limitation, but we are definitely beyond the bodily restrictions of elemental needs. There is

more to life than breathing, procreation and eating. However, it would be nice if we could understand, and become critically aware of the quality of our thinking. Intellect does the job.

Intellect is the manifestation of Spirit as a rational, reflective being, existing in a body, having thoughts, and possessing the capacity to move beyond the thoughts of the moment into an imagined (reasoned) future. The good news of Spirit-as-Intellect is that self-awareness is present. The bad news is that we tend to get locked into that self, understood as Intellect. In a word, we are "too much in our heads," to the detriment of our relationship with our body and the appreciation of our mind. Indeed we tend to split the two (body and mind), and having made that split, it is very hard to get it all back together again (the Humpty Dumpty Syndrome).

We become what we are in relation to the organizations of which we are a part. By the same token, our organizations reflect the evolutionary state of the individuals of which they consist.

Spirit as *Soul* gets it all together. My use of the word Soul corresponds to the Hebrew word *Nephesh* – which may be translated either as "corps," as in "Samuel slew 10,000 *Nepheshes*," or as something much more etherial, as in, "My Soul (*Nephesh*) cries out...". The street usage is just about right – when we say that "he/she's got Soul," what we mean is that "they have it all together." Soul is Spirit manifest as the integration of Body, Mind and Intellect. The good news is that we have finally gotten it together. But it would be very nice to soar above "it" all.

Spirit is Spirit manifest as itself. It doesn't happen very often (except for the *illuminati* – and most of us aren't there yet). But we all have those momentary glimpses beyond time and space, when Spirit is no longer limited to the here and now. Call it inspiration ("being in the spirit"), enthusiasm (literally, "being in God"), or something else, but we perceive it as being everything we can be – which is Spirit.

Organizational Consciousness

We can also understand organizations as an evolving "quantum of consciousness," or Spirit. We certainly have no problem talking about the Spirit of an organization, and even have much to say about its qualities - as in "great Spirit," "lousy Spirit," "powerful Spirit," "weak Spirit." I believe it possible to talk about the manifestations of Organizational Spirit, and that it is necessary to do that if we are going to make any sense out of the notion of "Organizational Learning as the Evolution of Consciousness." The organizational analogues to the Individual stages or states of consciousness (Spirit) are as follows (again reading from the bottom up):

Inspired
Inter-Active
Pro-Active
Responsive
Re-Active

Organizational Spirit appears first as *Re-Active*. This is the world of the Entrepreneur – great ideas, lots of energy, but prone to reinvention of the wheel. Things are very primal. The good news is that finally we are doing something. The bad news is that unless we can figure a way to do it smarter, we will quickly become exhausted. The first day of business may well be the last.

Getting smarter has a lot to do with putting things and actions into appropriate boxes, and giving them all names. We need words to define what we do, and with those words, it is possible to become *Responsive*. The Responsive organization is like the Mom and Pop Store – everything is in its proper place on the shelf, and when you walk in and ask for beans, the folks can be responsive to your needs by taking the can from the appropriate shelf. They may not *understand* where the beans came from, or what you are going to do with them, but they certainly can get you the beans. Everything works fine so long as the words and reality coincide, but when there is a shift, understanding is necessary. It is necessary to go beyond the words to their roots (history) and to their *potential* application (future).

Pro-Active Organizations can do both. They are intensely rational, and have the capacity to plan (i.e., deal with an imagined future). They *analyze* to understand what things mean. This is the world of the rational manager, the MBA. It is filled with strategic plans, numbers, and structure. There is a logic for everything and everything is logical – or at least that is the story. And indeed, the power manifest here is awesome, for this is what we used to know as the "well-run corporation." But the power present here continues only so long as the world is *as it was understood to be*. Change the shape of that world, and suddenly the logic does not apply.

At that point, the Pro-Active Organization will typically seek to re-rationalize (reorganize, re-structure), presuming that it must be doing something the wrong way, when the reality is that it is doing the wrong *thing*. Buggy whips are out. The world has changed, and while the Strategic Plan of Old Buggy Whip Inc. may be the model of rationality, that rationale no longer works. And here is the rub: the Pro-Active Organization usually gets stuck in its rationality. When that doesn't work, it sees few other alternatives, for it has lived so long in its abstracted version of the world that it no longer relates to the world as it is. This is known as forgetting the customer, and presuming you created the world. The possibilities here are dissolution, or evolution to a higher level.

The higher level is *Inter-Active*. This is the manifestation of Spirit which does not simply live in the world of rationality and abstraction, but rather continuously interacts with the world at large, and playfully invents and destroys structure to correlate with that world. It is not that structure is no longer important, but rather that structure must be *appropriate*. No longer is there "one right way" but a *multiplicity* of ways which may be chosen, or invented, to inter-relate with the world. The good news is that the organizational form (structure) is now at the service of the business, and the business is no longer prisoner to the form. But still, it is form/structure related, and sometime it would be wonderful to go beyond all that. And that is what the *Inspired* Organization does.

We don't see too many Inspired Organizations at the moment, but we all have had the experience of being part of such a thing, if only for a moment. When clocks are no longer important and performance exceeds technical capacity – that is inspired. We may have experienced this in the performance of a symphony orchestra, when technical skill passes into pure music, or when a research team breaks through the expected and the traditional to fly in the midst of ideas and realities that have never been thought of before. At such a moment we know, in ways that rational knowledge can never allow, that this is the way it was supposed to be. Perhaps there will be a day when the momentary experience is the NOW of everyday reality.

Individual And Organization

The relationship between the Individual and the Organizational manifestations of Spirit is more than analogous. It is *correlative*. We are, and we become what we are, in relationship to the organizations of which we are a part. By the same token, our organizations reflect the evolutionary state of the individuals of which they consist.

The correlation between the Individual and Organizational manifestations of Spirit would appear as follows:

5) Inspired — Spirit
4) Inter-Active — Soul
3) Pro-Active — Intellect
2) Responsive — Mind
1) Re-Active — Body

We desperately need to get Body, Mind, and Intellect all together – and that means evolving to the level of Soul.

An organization existing at the Pro-Active level is the natural home for individuals existing at the level of Intellect. Everybody is an MBA. That same organization will be challenged by an individual manifesting Soul, and retarded and held back by Body and Mind-level folks. Turning this around, individuals existing at the level of Intellect will find themselves challenged to reach their potential should they be fortunate to find themselves in an Inter-Active Organization.

In a word, Organizational Transformation (evolution) and Individual Transformation are never first-second but always "both together and all at once." To my mind, the discussion about whether we must transform as individuals *before* we can transform as organizations is to miss the point. Organizations and Individuals will transform together or not at all.

Where Are We Now?

I believe American organizations are now between the Pro-Active and Inter-Active level – and we find that to be damned uncomfortable. We are increasingly aware that the Pro-Active Organization, as good as it may have been, is simply not up to the tasks the world has thrust upon it. In a similar fashion we, as individuals, are now finding that living exclusively in our Intellect may have been fine in a more ordered day, but we now desperately need to get Body, Mind, and Intellect all together. And that means evolving to the level of Soul.

The prospective passage is anything but appealing. For to make the journey, we must quite literally let go of our old way of being in order to assume the new way. It is rather like the trapeze artist, who must release the bar-in-hand in order to catch the one-coming-in. And for the moment,

that means existing in Open Space with all the anxiety, not to say fear and trembling, that entails. Some of us just let the incoming bars come and go. Others keep looking for another way around. And some are about ready to climb off the platform, hoping for a better day when things get back to "normal." The truth of the matter is that what we experience *is* normal, and there is no easy way across.

Organizationally, as we perceive the inadequacies of the way our Pro-Active systems are at the moment, our first thought is that there must be something wrong with the system. It needs fixing, and Pro-Active Organizations are very good at fixing systems. So we restructure and reorganize, not just once, but again and again. But the System doesn't work. At that point, we give in to the temptation to *devolve*, reasoning that if we can't make the system work, maybe we need to "Go Back to Basics" (thank you, Tom Peters), down to the Re-Active Level. We all must become Entrepreneurs again. For the moment, this seems to work, and at the very least it is exciting to be in the middle of all that primal energy (Spirit).

Nobody is in control. At least, nobody is in control in the way we used to think about being in control.

But then it becomes clear that the entrepreneur in our midst is essentially *dis*-organized, and we must get organized, so it is back up to the Rational Manager one more time. Thus it is, for example, that Steve Jobs is succeeded by John Scully at Apple. Again it seems that the "fix" is working, but only for a while. And that "while" turns out to be shorter and shorter. Question: Are we eternally condemned to vacillate between the Entrepreneur and Rational Manager? Must we always go from Pro-Active to Re-Active to Pro-Active – and around again? Or is there something else?

There is something else, and I believe we know what it is: The Inter-Active Organization. But getting there does not come free. The price may be paid in a number of currencies, some of which are denominated in degrees of loss of control. We have lived under the delusion that we were actually in control, and that good management was all about maintaining control, to the point that some of our most persistent discussions were all about "Span of Control" – what is it and how to do it.

But now I think the secret is out. *Nobody* is in control. At least, nobody is in control the way we used to think about being in control. Gone are the days when we had a nice, closed system, known as "our market," where we pulled all the levers. In its place is a global market which synergizes endlessly with all its parts. And when you play by closed system rules in a radically open system, you can only fail. And that is precisely what we are doing. Putting it bluntly, we are at a clear choice point – evolve or die.

Actually, it is worse than that. It is evolve *and* die. To the extent that we have grown to understand and define our lives (individually and collectively) in terms of the old rules of the closed, Pro-Active System, there is no choice but to die to that life when it turns out that our system is, in fact, open and interactive. Closed systems, we now know, exist only in our imaginations.

The passage of Spirit from one form to a new one is very much like the passage of a caterpillar to butterfly. There is no way through, except by way of the cocoon or chrysalis. And what we may not be aware of is that in chrysalis, the caterpillar literally dissolves to become apparently disassociated protoplasm. One must become nothing before becoming something. Dying turns out to be an essential part of the evolutionary process.

At this point, we may return to some of the thoughts enunciated at the beginning of this paper. When I described the process of transformation as being analogous to the process of Grief-work, it was more than analogue. I think that is the reality.

Transformation As Learning

Having laid out (all too briefly) some thoughts about the process of transformation and the attendant costs, I think we may be in a position to say something more precisely about the function of the learning community and some of the immediate tasks at hand.

If it is true that the essence of learning is the evolution of Spirit, the prime function of the Learning Community must be to facilitate that passage. More specifically, this would mean to do *intentionally* what we are all going to go through anyhow – the process of Grief. We must understand this process, and be ready to help ourselves and each other along the road. I would call this High Learning, for it is the sort of learning that takes place during those moments of *quantum leap*.

There will come a time for what I called Normal Learning, after the leap is made, when we

are ready to explore and develop the new territory of Spirit. But that time is not now. Recognizing that fact could save us a lot of needless aggravation which I fear many of us are going through at the moment. There seems to be a lot of effort going into the improvement of our knowledge, skills and attitudes, and the associated education and training programs. But if it is actually true that knowledge and skills are always dependent upon context, and that context is ultimately determined by the level of consciousness (Spirit), then we must await the arrival of the new level and the new context. In the meantime, efforts devoted to the enhancement of Normal Learning can only be frustrating, for the Normal Learning we have (no matter how improved) can only be appropriate to a level of consciousness we are about to leave.

How long we will have to wait before we can get on with the business of preparing the curriculum for the new Normal Learning is an interesting question, but I don't think the time will be long. The reason is quite simple: time is fast running out for the old level of Spirit. The immanence of environmental, social, political and financial disaster – caused by a perception of the human spirit which began and ended with control, rationality and intellect – all have set a very short time table. Whether the time is five years or fifty years, I have absolutely no idea. But I am clear that we will have the opportunity to experiment with the new Normal Learning much sooner than we might think. ▲

Time is running out for the old level of Spirit.

Learning Communities Thrive On Campus

In the modern university, teaching and learning can sometimes be an isolating, lonely business. But newly developed "learning communities" are an effort to improve the situation by linking together several existing courses – or restructuring the curriculum entirely – so that students experience greater coherence and a sense of shared purpose in what they are studying, while also providing students more opportunities for interaction with peers and teachers.

The simplest learning community design involves linking two courses to give a *context* to skill courses – for example, linking general education classes in the sciences, social sciences, or humanities with skill courses in writing, speech, or mathematics. The reading and subject matter of the *content* course then becomes the major focus of the work in the *skill* course.

"Freshmen Interest Groups" (FIGs) – one form of learning community at the University of Washington – invite students to co-register for a cluster of three related courses with a senior student acting as a peer advisor to the group. As a result of being in three courses together and meeting with the peer advisor, the students develop a strong sense of community, develop friendships, and learn to navigate in their new collegiate setting. FIGs provide students with a sense of community in a large university environment. The FIG program – popular with students, faculty, and parents – is growing rapidly.

"Clusters" require relatively little change in the existing curriculum. Clusters are composed of three or four free-standing courses for which a particular group of students co-register. Usually there is a theme that ties the three classes together (some schools have had honors curricula designed around this model). The amount of faculty co-planning varies from extensive to none at all. Clusters often involve large-scale courses in which the cluster students are only a segment; nonetheless, they quickly become a vital and active small community.

"Coordinated studies programs" eliminate the notions of "courses" altogether. A number of colleges are designing fully integrated "programs" which are thematic and team-taught. For example, recent programs at The Evergreen State College in Olympia, WA, include such titles as "The Paradox of Progress," "The Making of America," and "Society and the Computer."

Learning communities can accomplish many of the things called for in recent studies of higher education: cross-disciplinary perspectives, more coherence in the curriculum, collaboration among faculty, and more time spent on accomplishing tasks. The evidence from Washington State suggests that they are highly effective in terms of student retention and student motivation; they have a very positive impact on faculty morale; and they provide a promising, practical way of building community and revitalizing our institutions.

– Barbara Leigh Smith

Barbara Leigh Smith is Director of the Washington Center for Improving the Quality of Undergraduate Eduation, Evergreen State College, Olympia, WA 98505. For more information on this topic, see the book Learning Communities: Creating Connections Among Students, Faculty, and Disciplines, *by Faith Gabelnick and Roberta Matthews, Jossey-Bass Publishers, May 1990.*

ACCELERATED LEARNING

The value of playing games, singing songs, listening to stories – and how learning is improved by the power of suggestion

An Interview with Libyan Labiosa Cassone, by Alan AtKisson

What if you could learn a lot more, a lot faster, and have a lot more fun doing it? You can. Accelerated learning is one of the most exciting and effective applications of the new learning theories, and it's revolutionizing learning in schools, corporations, and living rooms all over the world.

Based on the work of Bulgarian psychiatrist Georgi Lozanov, who developed the theory of "suggestopedia," and Dr. Evelyna Gateva, a language educator, accelerated learning also incorporates Howard Gardner's multiple intelligences theory (see p. 12) and the power of the arts (see p. 46). In 1978 the Bulgarian government put the brakes on the spread of accelerated learning by refusing to allow Lozanov to communicate with the outside world. But the model didn't completely lose momentum – and interest has accelerated tremendously since glasnost hit Bulgaria in 1987.

Libyan Labiosa Cassone is President of the Society for Accelerative Learning and Teaching (Box 1549, Welch Station, Ames, IA 50010). She is also the International Product Developer for Accelerated Learning Systems (3028 Emerson Ave. S., Minneapolis, MN 55408, 612/827-4856). I caught up with her in London by telephone.

Alan: *How does accelerated learning work?*

Libyan Labiosa Cassone

Libyan: Accelerated learning is a multi-modal, multisensory approach. We take into consideration different learning styles, as well as all the senses: visual, auditory, kinesthetic, even gustatory and olfactory, depending on the age group.

Alan: *So people might actually be sniffing something in order to connect it with the thing they need to learn?*

Libyan: Right. We also use the power of the arts – music, visual arts, drama, dance, movement – and students actually *perform* the material to some extent. What we're really doing is combining theories of multiple intelligence together with art, which is a very solid base for retaining information longer, with a very deep understanding of that material. It far surpasses rote learning.

Alan: *Or memorizing the rules of grammar. What makes this method "accelerated"?*

Libyan: It's not accelerated in terms of being speedy so much as it is in terms of being *efficient* – we use time and space in the class in a very efficient way. The teacher's plan is incredibly detailed, so that when the plan is carried out, the students *get* it. They seem to absorb material much faster and remember it longer.

Alan: *It also sounds like fun. Is it?*

Libyan: Oh, it's immensely fun! The classes are based on the model that Dr. Georgi Lozanov developed with his colleague, Dr. Evelyna Gateva. Their approach is to present information to pupils in a cycle: First we introduce the pupils to information, then we *activate* it. We present a global perspective on the information, but we are also decoding its different parts.

Alan: *So you give them the big picture at the same time that you're breaking it up so they can see how the pieces fit together.*

Libyan: Right. We start with the "Concert Phase," which is unique to accelerated learning. First, in the "Active Concert," we might play the music of classical and romantic composers – such as Mozart, Brahms, or Beethoven – while the teacher reads a text very emphatically, very dramatically. The text is usually a drama, written in a very rhythmical manner, and it has many embedded messages in it about how much fun learning is and how easy the subject matter is to be learned. The experience is very powerful – you can imagine the impact of hearing a teacher actually *reading* to Beethoven's Fifth Symphony!

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In a foreign language class, for example, the text might be a story. And it just happens that in that story are embedded those high frequency phrases that we normally learn in a foreign language class, except we're learning them in their social and cultural context.

It's more interesting for the pupils – is Pedro going to fall in love with Helen? And what's going to happen on his trip to Washington? Meanwhile, the students are learning vocabulary about giving directions, as well as descriptive adjectives and complex verb forms, but they don't know it! We slip it in through the back door.

Alan: *What's interesting to me is that this sounds like common sense – and yet this is a new idea.*

Libyan: Well, it's new and it's not new. What's new about it is that in accelerated learning we use all of these elements *consistently*, versus using them once in a while when the pupils are getting antsy. Foreign language teachers are famous for playing games with their pupils – but do they always play games? And are the games both *affective* and *effective* in nature – that is, do they make a positive psychological impact while getting the information across?

In fact, Dr. Gateva and Dr. Lozanov have recently been doing research on the "byproducts," as they call them, of accelerated learning. They found that one byproduct involves the development of the *personality* of the pupil. The pupils learn higher-order thinking skills, how to be more creative, and how to be more free as far as their choices in life are concerned.

Alan: *How does accelerated learning expand a student's sense of freedom?*

Libyan: By enhancing their *desire* to learn. We present all of the information in context, and what happens is that the pupils want to learn *more*. They're curious, and they realize there must be some hidden agenda – after all, we *are* learning Spanish or whatever. So, where's the grammar?

But instead of *dictating* a lesson on grammar, the teacher is role-playing, or playing games, or singing songs, and *embedded* within that material is the grammar. Eventually the pupil will say, "You know, I really can't wait to do some more of this subjunctive tense stuff because it allows me to express myself better in Spanish. Can you please give me some more of those rules so I'll get it right?" You don't get *that* in other classes.

Alan: *No, I guess you don't! What comes next in the accelerated learning process?*

Libyan: Directly following the Active Concert is a second one called the Passive Concert. The teacher reads the text again, but now in normal tone of voice. In Concert 1, the pronunciation was deliberate and very careful, almost like feeding little morsels of information to the pupils. But in Concert 2 we're speaking as one would normally speak, say on a nice street in Mexico where people are talking pretty fast. And we would use Baroque pieces of music. The pupils don't necessarily have their book in front of them – they're just listening to the teacher's voice and re-enacting the content of the play in their mind's eye. It *solidifies* the meaning of the words as they recreate the story in their heads.

You can imagine the impact of a teacher actually reading to Beethoven's Fifth Symphony!

Alan: *So engaging that inner movie screen is very important to the process.*

Libyan: Right. Then, directly following that, they would go home and go to sleep. The next day would begin the "Activation Phase," which is where we spend about 75% of our time in the classroom. Having presented 500 or 2,000 words in a concert reading, we then go back and say, "Well, what areas did we cover? We covered clothes, directions, greetings, numbers." We divide the reading out into the different lexical and grammatical units that were embedded in the text.

And then we play games dealing with each one of those items, taking into consideration the multiple intelligence theories of Howard Gardner. Intrapersonal learners might sit by themselves and invent their own explanations or highlight certain parts of the text. Those who prefer interpersonal learning might form groups for playing games. Others might draw a picture about their favorite city, and then have to tell their classmates – in the target language – about that city, and answer questions about it. Or they might compose a song about the lesson using their favorite tune.

Alan: *You're talking about foreign languages here. Would the process look similar for a science class? Would there be songs about relativity theory?*

Libyan: Yes, or the lungs and how we breathe, and how the quality of the environment affects our lungs. Or you might make puppets of the different organs in the body. It's the same pattern, because thinking in terms of science and math is sometimes a foreign language for students.

Alan: *How did Lozanov dream up this method of learning, and why does he call it "suggestopedia"?*

Libyan: Dr. Lozanov himself has a problem with the term "suggestopedia" – it's a bad translation from the Bulgarian, but it's as close as we could get. As a psychiatrist, he had studied clinical suggestion with his patients – but he also studied the Indian gurus and the Buddhist monks, and he found that those people can learn *volumes* of material.

He was able to travel to India in the early 1960s and observe the monks at work, and he realized that there were things that *always* occurred no matter what group he was studying. For example, the environment was very important – it would *suggest* silence, observation, relaxation. It wasn't necessary for someone to tell you, "Okay, we're all going to relax now!" because the environment was *inviting* you to relax.

Those things which are magical in kindergarten bring that quality of joy throughout lifelong learning.

That's now reflected in the accelerated learning methods. It isn't that the teacher says "We're going to learn about the subjunctive now." Instead, the classroom is set up to *invite* you to learn the subjunctive. The posters on the walls, the colors, the textures, the way the seats are arranged, perhaps even the way the teacher is dressed, all make a difference. Are the books on your desk when you come into the classroom? Or does the teacher *give* you the book, have eye contact with you, perhaps even smile as she does so? All of those things – which are quite magical in kindergarten – bring that quality of joy to the classroom *throughout* life-long learning.

Alan: *To rephrase Robert Fulghum, "Everything I need to know for making learning fun I learned in kindergarten."*

Libyan: That's an important point, because we don't do a lot of those things anymore for our pupils. If we decorate the classroom, we do it in September and it stays up for the rest of the year. Only the very early elementary school teachers will change the classroom to go with the season. Well, the same type of thing can be done for a lexical and grammatical unit – there could be a different way to decorate the room to teach the past tense, or to teach about the kidneys and their function, or to teach about algebraic formulas. In fact, I recommend to my teachers that they change their room every ten hours of instruction.

Now, a lot of teachers will say "That's a lot of work!" But you can have your *pupils* make all of the peripheral stimuli to put up on the walls as part of the learning process.

Alan: *Is the importance of these peripheral stimuli something Lozanov observed in India?*

Libyan: Yes. But in America, we're *already* high on peripheral stimuli – if you just walk down the street you're bombarded by signs and radio messages and songs that tell us something about who we are as people and who we are as a society. Lozanov says, why don't we take that suggestion and bring it to the classroom? Let's suggest that it's really lots of *fun* to do the subjunctive in Spanish, and it's really quite *interesting* to learn about our lungs, and so on.

Alan: *How does accelerated learning deal with making errors?*

Libyan: In that same, positive manner. When somebody makes a mistake, instead of having a figurative alarm go off and a hook emerge to drag the student out of the classroom, we would say, "That's okay, you made an error – that's part of life, and you'll get it better next time." We seek gently to correct them and to encourage them to express themselves.

The model is something like student as athlete and teacher as coach. When you're working at becoming a good athlete, your coach isn't going to say "Too bad, you didn't get to a certain mark, you can't play any more." On the contrary, he encourages you to figure out better ways of doing it so that next time you can accomplish your goal.

Alan: *How did you get interested in accelerated learning?*

Libyan: I was working on my Master's Degree at Boston University, and in my first teaching experience there, I was told to tell my students that we were going to spend the entire semester on the subjunctive, that it was the most difficult item, that most of them would *not* get it, and that *whether* they got it would determine whether or not they would continue to study Spanish. Needless to say, the pupils were not into it.

And I thought, this is ridiculous! I was studying to become a Spanish teacher, and my students were not learning Spanish! Spanish was being *taught* to them, but it was going straight *through* them. They weren't retaining anything.

So that drew me towards figuring out a better way of teaching. I came across John Rassias's work, the Dartmouth Method. He believes that if

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we can emotionally charge the material for our pupils, they'll learn better and faster.

That got me interested in other teaching methodologies, but I didn't think it was the whole answer. Then I came across *Total Physical Response* by James Asher, and he basically says that we learn kinesthetically. But I kept seeing that while there were some pupils in the classroom who reacted to the emotionally-charged material, and some who reacted to the kinesthetic or physical material, I *still* wasn't getting everybody.

That's when I heard about Dr. Lozanov, and I realized the importance of *attitude* and suggestion. My attitude as a teacher was that learning was not my job, but the *students'* job – they were supposed to do their homework. But Lozanov shifts the responsibility – it *is* your job. You are their *teacher*, and it's your job to figure out ways to make information more attractive to your pupils.

In other words, in my earlier years of teaching, I always thought it was the *pupils* that were doing it wrong. I didn't realize that it was *me*, in terms of my approach to teaching in the classroom. It wasn't that I was doing it wrong – I just didn't really know how to do it. So when I learned about Dr. Lozanov's work on suggestion and attended a workshop by Dr. Charles Schmidt from San Francisco, it pretty much changed my life. I decided that this is what I was going to do, and I have done nothing but this seven days a week, fourteen hours a day, for the past five years.

Alan: *When you train teachers in the accelerated learning method, do you use the method itself?*

Libyan: That's an interesting question. Some trainers, including Dr. Lozanov, think that it's important to learn *about* it, instead of *acquiring* it by doing it. But then, he lectures, while his colleague Dr. Gateva – who has done most of the research in creating classroom applications for the theory – will teach you an Italian class so that you will actually experience the suggestopedic model.

I do a little bit of both. I give the teachers the theory in a very quick manner and then I activate the theory – so I create a little microcosm of the instructional design model to teach the teachers about accelerated learning. By the time they're done with the teacher training, they have a bag of tricks comprised of a hundred or more activations.

Alan: *Some people may not have access to training in this method, so what aspects of it could they put into practice right away?*

Libyan: Two things they can use immediately are changing the environment of their classrooms as I was describing earlier – changing the decorations, and the structure of the classroom so that the pupils don't feel nailed into chairs which are nailed into the floor.

The second thing I would recommend is the use of activation in the classroom – perhaps play one game every day in class that has an affective and an effective purpose to it. Just one! Get the pupils involved so that they are using all of their sensory modalities instead of just doing logical, sequential, and linguistic forms of learning.

Accelerated learning brings the imitation of art and nature into the classroom.

Alan: *It strikes me that this method of teaching is very humane, very pro-learner.*

Libyan: Oh, very much so. When pupils are performing a subject, they're learning in an integrative fashion. It helps them learn to communicate better and to freely express themselves, and heightened communication prepares us for dealing with a higher-tech society.

But it's also important to have structure within the flexibility – as in Mozart, where he creates variations on the tunes and the phrasings so often, yet there is pattern and structure to the music. Accelerated learning brings that imitation of art and nature into the classroom, and with it a sense of harmony and wholeness, but in a very scientific manner. It's a nice combination.

You know, Dr. Lozanov talks about an interesting phenomenon – he says that there are illnesses brought on by the way we are taught.

Alan: *I know a few students who might agree.*

Libyan: It's a very provocative idea – the fact that our teaching methodology may be *part* of the reason for the increased amount of teenage suicide, increasing isolation, and a decrease in creativity and freedom of thought. Unfortunately, it takes something that devastating to shake us up and look at teaching our pupils in a different way.

Alan: *But fortunately, we do have some wonderful alternatives available.*

Libyan: Yes, we do, and they are very effective alternatives, very solidly based. It's the combination of neuroscience, cognitive psychology, and instructional design. It involves training teachers, creating curriculum, and developing material. It involves bringing together administration, teachers, and parents. And if we continue to create all of these nice triangles, I think we'll end up with a geodesic dome – something very stable and very beautiful. ▲

The Primacy Of Story

Because our minds are united by the story engram, with which we think, dream, and hope, the world of the human mind is one world

by Renée Fuller

In an earlier issue of IN CONTEXT, Renée Fuller, creator of the Ball-Stick-Bird reading system, wrote about astonishing achievements in reading on the part of severely retarded students (IQ 20-50) – achievements she herself did not believe possible ("Beyond IQ," IC#18). But teaching these students to read did more than help them operate in a world of letters and entertain themselves. It taught them to think. What's more, it gave some of the capacity for metacognition – thinking about thinking.

Dr. Fuller, a phsyiological psychologist, has dug deeply into this phenomenon and discovered what she believes to be the basic building block of consciousness – the story engram. With direct ties to our evolutionary development, the story engram underlies all our languages, scientific discoveries, and descriptions of the world. Understanding its primacy in consciousness – and observing its effect on the individual mind when called into action from dormancy – is enough to erase many of the illusions of separateness under which we labor. We are more alike than we know.

Here Renée Fuller tells the story of Bob, a retarded man who developed rare wisdom, and the story of the story engram itself. Contact her at Ball-Stick-Bird Publications, PO Box 592, Stony Brook, NY 11790.

There he was again, trying to catch my eye. But I didn't want my eye caught. As Chief of Psychological Services at a large hospital and also heavily involved in research, there just wasn't time to respond to every retarded patient who wanted attention. But this time Bob was insistent. He stepped in front of me, blocking the path into my office.

Renée Fuller

"You write de books. I know ... Vooroos." Then, gathering steam, he repeated without hesitation "I know Vooroos." He looked at me triumphantly. Seeing my puzzled look, his eyes became pleading. "Vooroos ... I know Vooroos ... Vooroos here." His gesture with both arms seemed to indicate everywhere.

Finally I understood. "You mean the Vooroos are more than cartoons. They are ..."

"People. I know..." Then pointing at me, "You know Vooroos." I had to laugh. Bob was right. The Vooroos, characters in the books he was learning to read with (and which I had written), were indeed all around us. Amusing looking cartoons, the Vooroos are the proverbial bad guys who get their kicks out of making others unhappy. Of course in my books the bad guys always failed. That was the fun of it – good always triumphed. And as Bob later explained to me, so it would at the hospital, even though sometimes it looked as though the Vooroos had won.

That day, when Bob finally made me understand that he relished the concept of allegory, was the beginning of a series of conversations between the two of us. We talked about the latent, the hidden content of my books which he understood so well, but which many of my staff had missed. In a way we became friends.

At age 48, with a Stanford-Binet IQ of 48, Bob had been institutionalized most of his life. The heavily-funded school at the institution had valiantly tried to educate him, to no avail. After decades of intensive work, he still did not know most of the alphabet. This total lack of academic success was one of the reasons he had been chosen for the Ball-Stick-Bird research study.

The Ball-Stick-Bird reading system, intended for superior dyslexic students, was not supposed to be effective with the retarded. Nevertheless, some of my staff had insisted that we try it out on a retarded population anyway. Bob was one of their first students, and his success was immediate. After 48 years of failure, Bob learned to read! And he *understood* what he was reading! But something more important had happened, and Bob was desperately trying to tell me about it with his steadily increasing vocabulary and ability to communicate.

Bob was understanding things about life that he hadn't even been aware of before. Mimicking the idea-unit technique of Ball-Stick-Bird, he built the concepts he was trying to understand and communicate by carefully choosing the appropriate noun and then its action verb. As he became more adept, he added adjectives and adverbs to the noun/action-verb complex. In this way he was gradually able to develop and express a *philosophy of life* not only to others, but to himself.

Two more years passed. Bob, being a decade further along in life than I, began to understand things that were still out of my reach. He had witnessed a great deal of violence in his life. What he was able to verbalize, with the cognitive changes that came with the later books in the Ball-Stick-Bird series, was that violence never really paid. It damaged not only the victims, but the *perpetrators*. Bob thought about the horrendous price the perpetrators had to pay, and he felt tremendous sadness. He believed that punishment – and revenge – simply did not work, and that other ways must be found to change people. And he had seen all this in my books – in itself an astonishing achievement, since that element of the stories that somehow escaped the attention of my high-IQ staff!

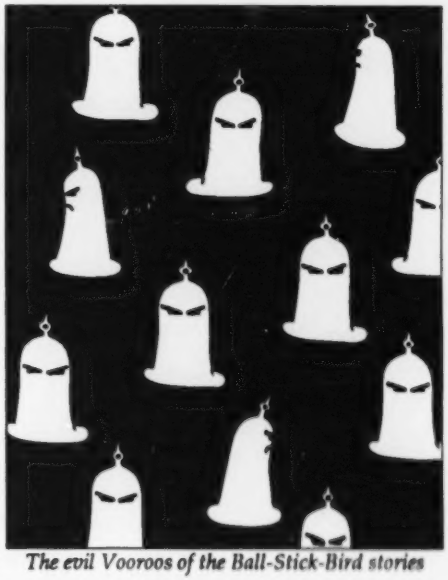
But curiously, my response to his increasing maturity was not always as generous with delight as I would have expected. Only now, many years later, do I realize what I missed.

The riches of our minds reflect who we are. They are our identity. It is not as easy to be generous about what our minds own as it is about material goods. Generous people are willing to share economic wealth, but the wealth of our minds we call our own, for it determines our ultimate status. By first grade, children frequently know where in the intellectual pecking order they belong. The tests tell them, and their parents, exactly what to expect. That Bob, a middle-aged retarded man, and I were having philosophical conversations was unexpected, and surprisingly hard to accept, even though I myself had helped create these changes.

It was easier to accept the teenager Andy, who also used idea units to build bigger stories, line by line. Andy, with his abnormal EEG, IQ of 51, and impaired psychomotor ability, was the son of two institutionalized retardates. His placement in foster care had ended in abuse and he was returned to the institution. Again, the institution's school had tried a myriad of technologies and approaches. The Ph.D.-level vice principal had spent a year on a one-to-one basis trying to teach Andy to read. At the end of the year he still could not recognize most of the letters of the alphabet. A year after our intervention, Andy laboriously wrote out what he wanted to communicate using idea units because "it help you think." His acting out dropped off sharply, and a generous, thoughtful child emerged.

Story And Thinking

What was it that had happened to these two retarded people, and to the other 24 of the original study, and the thousands since, who not only learned to read but also learned to think? Why were there such dramatic personality changes which accompanied the growth in cognition? Bob and Andy gave us a clue when they mimicked the layout in idea units and the developmental linguistics of the reading system. They did so not only in their writing, but also in their talking.



The evil Vooroos of the Ball-Stick-Bird stories

Originally I had incorporated developmental linguistics into the Ball-Stick-Bird reading system to make story reading easier for the beginning student. Recapitulating the language development of the child, the first books of the series are composed primarily with nouns and their action verbs. Gradually adjectives and adverbs are added. This is one of the B-S-B techniques that, as we were to find out, made it easy for normal four-year-olds, the dyslexic, even the severely retarded to learn to read with comprehension. But these techniques also inadvertently demonstrated, and thereby taught, how a miniature story (an idea unit which is highlighted by the B-S-B layout) can be used to build bigger and bigger stories.

The first words of children the world over are almost invariably nouns. These nouns, if the parent knows the context, frequently imply a miniature story. Within a few more months the nouns gain their action verb, and now the miniature story is more readily understood by outsiders. Shortly thereafter adjectives, then adverbs appear describing the nouns and the verbs. The connectives and articles appear later still. Last in child

Illustration from The Big Tall Vooroo *by Renée Fuller*

development come the prepositions, some of which are not mastered until teenage years. This is the progression by which children learn to communicate. The B-S-B teaching system, by following this natural progression, speeded up and enhanced normal cognitive development. In the case of the retarded, it sometimes made possible an approximation to normal development that was completely unexpected. We have repeatedly seen how B-S-B intervention, regardless at what age, IQ, or learning disability, triggers an astonishing intellectual explosion.

But why did the building of stories in this way trigger such extraordinary cognitive development? Had the teaching system inadvertently tapped a fundamental building block of human cognitive organization? I think it reached something so fundamental in cognitive organization that even with his/her first nouns the human child is already using this building block. It is the miniature story which the parent, knowing the context, understands. I call it the *story engram*. As the child progresses from nouns to verbs, this story engram develops in power and becomes the building block with which we humans do our thinking. Our thoughts, even the most obtuse, take the story form. And by being shown how this cognitive building block is structured – how it is used to build bigger stories – the human mind is able to do what it does naturally on a level that surpasses any previous achievements or expectations.

Discovering The Story Engram

The Ball-Stick-Bird reading system derives its name from the way it highlights alphabet configurations. The student is shown how all the letters can be built with three basic forms: a circle, a line, and an angle. These three color-coded shapes are so basic to the human nervous system that a newborn can recognize them. Even an octopus can be trained to respond to them.

By building the letters with the three forms while giving their most usual sound, four sense modalities are tapped instead of the usual two. Further, the three basic forms highlight those parts of a letter that differentiate it from other letters, and clarify which aspects of a letter are pertinent and which are merely "doohickeys."

Story reading, however, does not wait for alphabet mastery. The strategy is to get to contextual reading as rapidly as possible. To achieve this, initial memory load is reduced – beginning reading is taught with capitals, which have the additional advantage of avoiding letter reversals since in B-S-B letter building, the *big stick* is always first (to the left). Also letters are known by their most usual sound, rather than by their alphabet names, again reducing the initial memory load.

Already with the presentation of the second letter, word building begins. With the presentation of the fourth letter, the first science fiction story starts.

But what exactly is a story, and how does it come into being? Examination of the stories and letters written by our beginning readers furnished a curious clue. Line by careful line, these written communications were built with *idea units* – nouns plus action verbs – in the style of the B-S-B teaching system. I realized that the idea unit, which is actually a miniature story, was the fundamental unit of cognitive organization that had been tapped by the B-S-B system – the *story engram*.

◆

The story engram as the fundamental unit of information processing is not the only way information storage and processing could have evolved. An example of a very different way is that of bees – their cognitive organization is highly efficient, requiring the investment of only a tiny nervous system. In contrast, the mammalian brain is an exceedingly expensive energy investment. And it becomes progressively more energy expensive as one goes up the phylogenetic scale.

Gauging from the degree to which which we have overpopulated this planet, this energy expensive brain had a revolutionary advantage – the story engram. It allows us to draw swift conclusions about complicated interlocking stimuli. The story engram, with its capacity for story elaboration, allows not only for a phenomenal increase in memory storage and retrieval, but more information can be processed and retrieved per unit of time.

But the story engram does more. By imposing a structure on reality, it determines how we humans perceive our world. The cause-and-effect relationships, the either/or phenomena, the dichotomies, and the explanations are all imposed by an engram that derives its structure from the noun/action-verb ontogeny, which made rapid decisions and communication possible. This story engram structure determines the nature of human logic – and the lack of it.

– Renée Fuller

Extracted and condensed from "Teaching With The Story Engram," a scientific paper presented at the 98th Convention of the American Psychological Association, Boston, 1990.

THE STORY OF STORY

How did this story engram come into being? Tracing the noun-action-verb ontogeny of the story engram is a fragmented but fascinating story of its own. We know that insects can communicate complicated bits of information. For example, bees can tell the other bees of their hive the location of choice pollen. However, such information processing bears little resemblance to the capacities of mammals with their versatility and flexibility.

The story engram appears to be a novel evolutionary development of the Class Mammalia. Most of us know dogs who recognize a dozen nouns, half a dozen verbs, and several adjectives. For example, the communications "good dog," "fetch ball," are not unusual. Both communications are simple story engrams – the building blocks with which human mammals tell bigger and bigger stories. Researchers found that wild vervet monkeys produce different sounds for different predators (nouns), which require different responses (verbs). Here is the story engram in its noun/action-verb ontogeny. With this kind of etiology we can see why causal relationships are so fundamental to human thinking. As with much of physiology and morphology, the evolutionary development of the story engram in mammals is similar to the progression seen in the developing child. Ontogeny recapitulates phylogeny.

Having its roots in early mammalian evolution probably explains why the story engram is so overrepresented in the human brain. Even our badly brain-damaged students were able to call on this capacity. Every human culture talks with the engram, thinks with it, and uses it as a building block to produce bigger and bigger stories. It is the universal trademark of the human brain that it spends much of its waking life listening to, telling, and thinking up stories. It is also why all humans have languages, and why all these languages have a similar grammatical structure. Sharing the noun/action-verb ontogeny, all human languages have nouns, and adjectives that describe these nouns; verbs, and adverbs that describe the verbs and adjectives. Having such similar grammatical structures, the stories of one language can readily be translated into another.

The history of the story engram has made all humans surprisingly alike in the stories they tell and listen to. It has also made what I call *engram logic* possible. We use story engrams as book titles, movie titles, headlines in newspapers, chapter headings, and when we say something "in a nutshell." Story engrams can also become scientific constructs, which we try to validate. My description in this article of "the story engram" is itself such an example. And because the story engram with which bigger and bigger stories are built is so basic to our cognitive evolution, to our human way of thinking, children from stone-age tribes can become college professors or scientists in one generation – even if we denigrate the accomplishment with "After all, he was the son of a chief."

Illustration from The Big Tall Vooroo *by Renée Fuller*

For just as I found it difficult to share my intellectual status with Bob, so other intellectually wealthy individuals, or groups, or even nations, find it difficult to let go of their intellectual superiority. The curse of the IQ tests or SAT scores hangs over all our children; and the label "superior," or "average," or "developmentally delayed" has reached down to the nursery schools. Yet retarded Bob and I, two middle-aged humans, had more in common intellectually than some of my younger staff and I. However, that was after intervention – after Bob had learned how the story engram is constructed, and how to build the wonderful edifices of the human mind with it.

Now, many years later, I realize how much Bob has enriched my life. His views on pacifism haunt me still. How many Bobs are there who could enrich all our lives? How many "average" or "developmentally delayed" children are there who could be taught what the story engram can build, and as a result think deep thoughts and make a difference in many lives? All human children can have wings so their minds will soar to worlds as yet unknown. And one of the things they will discover is that *the world of the human mind is one world.* ▲

Difference Is Not Deficiency

Research on differences in cognitive style suggests minority students could contribute far more than they do now – if given the chance

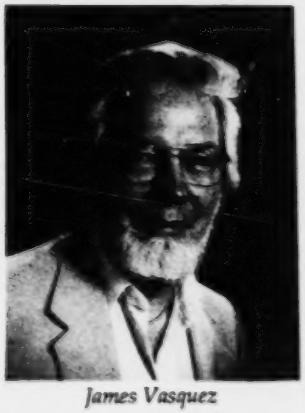
An Interview with James Vasquez, by Alan AtKisson

Are minority students, who have often languished at the bottom of school achievement rosters, intellectually different? If we paid attention to those differences, would they do better? James Vasquez, an educational psychologist of Mexican descent, would say "definitely yes." He has been interpreting the literature on cognitive style difference as part of his own work in teacher education at the University of Washington.

The subject of ethnic difference is a sensitive one, but Vasquez believes it is important to confront the issue head on. Difference is difference, not deficiency; and changing teaching styles to conform with different thinking styles – instead of vice versa – would do much to redress decades of educational wrong-headedness. Contact James Vasquez at 122 Miller Hall DQ-12, University of Washington, Seattle, WA 98195.

Alan: *What is "cognitive style"? And why is it important?*

Jim: Most psychologists would define cognitive style as one's *preference* for learning, in terms of perceiving stimuli, organizing information in the mind, and then retrieving it. It's not to be confused with cognitive *ability*. It's not how much skill you have mentally, but rather the *ways* you prefer to learn.



James Vasquez

Why is it important? Because we're kidding ourselves if we think preference and ability aren't related. If a youngster is taught in a way that suits his or her preferences for learning, you can bet that youngster will grow intellectually. An *abundance* of studies shows that a match between teaching and learning style is good for learning.

Now those of us interested in minority education have one thing more to say. We believe that in general the mainstream child has had his or her learning style automatically attended to by teachers who are also mainstream, middle-class, White-culture people. Neither party may know a thing about cognitive styles, but there is a built-in match that is not found with culturally different, ethnic-minority students. We believe this is one reason for the attainment gap between mainstream and minority students.

Alan: *What differences define cognitive style?*

Jim: The most commonly researched dimension by far is known as *field independence* and *field dependence*. Field independence is defined in terms of preference for detail, sometimes called "differentiation." You might describe it in terms of the *direction* learning takes: field independent students prefer to start with the small and move to the general. We call that *inductive* learning, from the particular to the general.

For example, say you're studying science. Rather than being given the general rule which governs a phenomenon, you prefer to start with the *particulars*: what happens when you hold metal over a flame? Why do some metals bend and not others? Well, you find reasons, and pretty soon you get to the general rule that certain types of metals are more responsive to heat.

The field dependent person prefers a global approach. Give them the *rule* first, the overarching principle that governs – how metals react to heat, for example. Then, when they settle into the entire field – that is, they know the limits of what's going to be taught, and they have the overview – then they are more comfortable with the particulars. This is *deductive* learning. It moves from the general to the particular.

There are a number of personality traits, as well as cognitive differences, that derive from these two styles. Field independent people tend more to be loners, to be competitive. Field depen-

dent people are the reverse: they are quite inventive verbally and work well in groups. Children who are field dependent can be more receptive to the authority of an adult, and less individualistic and less self-evaluative than the field independent. Field independent people like mathematics and discrete, small-sized bits of information that they can put together. They deal more with abstractions, and they are very good, usually, at spatial manipulations.

Alan: *What determines whether a person is one style or the other? And how can you tell?*

Jim: Cognitive style appears to be a matter of learning, and not a built-in characteristic genetically – although I am aware of growing research on inheritability.

But very interestingly, the most highly correlated factor in the home, for children of these two types, is *discipline*. Make note, I'm saying it's *correlated*; we don't know that it's the cause. But a strict, rather severe disciplinary atmosphere tends to be associated with field dependent kids. A more free, permissive home atmosphere is associated with field independent kids.

How do we measure it? The first instrument was an artificial room built so that you could not orient yourself to the upright by looking around you. Everything was tilted, and the individual who could set himself or herself upright was said to be "field independent." It *literally* meant independent of the field around you.

That test was cumbersome. Today the most common way to assess cognitive style is paper and pencil, using embedded figures tests. The field independent person can, within a very complex design, tell you if a certain smaller design is there or not. The field dependent person loses it and goes quickly to the field.

Alan: *Their perception of the larger context overwhelms the particular. Can people have mixtures of these traits?*

Jim: Definitely. In fact, that's one of the things that happens with minorities, who may come to school much more field dependent. But an array of field *in*dependent teachers over the years *forces* them to learn in that way if they are going to do well. Some people have that flexibility, and they become what we might call "bicognitive." Others probably don't have that flexibility, and maybe eventually drop out – and what our school system is doing is *pushing* them out.

But even for those who do have the flexibility, schools are not capitalizing on the strength that field dependent children bring. It's forcing them rather to change into a more field independent mode. Some of us feel it's a loss to society when we do not allow individuals to develop their cooperative instincts, their overview of things, their sense of globalism in perspective. My graduate students, for example, immediately see these traits as very important in the world today.

It's a loss to society when we do not allow individuals to develop their cooperative instincts.

We owe much to the field independents in terms of technological advancement and development. But society needs *both* types, and we've been giving more of a break – and a reward – to the field independents.

Alan: *Which type is more innovative?*

Jim: We probably *stifle* innovation by fostering the development of field independence rather than field dependence. Field dependent kids have been found to be more productive in fantasy – making up endings to stories – than field independent kids. On that thin line of evidence (and I know of none that contradicts it), I would say that the potential for inventiveness may be greater among field dependents.

Also, field independent types are much more linear and predictable in their thinking. That could mean that they are a little more enclosed, because they are used to what we call "convergent thinking." In other words, "the question's here, there's only one answer ..."

Alan: *"... and I'm going to find it by traveling the royal road." And if you're field dependent?*

Jim: You may tend to be more divergent in your thinking.

Alan: *You start off at the center, so you can go out to one of a number of destinations. Is it also fair to say that field independents prefer abstract thinking, while field dependents are more practical and concrete?*

Jim: Yes. But there are always exceptions; many people who come from homes where you would predict field dependence may not be. Still, the tendencies are clear.

Alan: *What about socioeconomic factors and relative economic advantage? How do they fit in?*

Jim: There is a correlation, because anything that is more often associated with either mainstream or minority backgrounds is going to have that correlation. The question is, is it *causal*? Middle class people to tend to be more field inde-

pendent, and lower class people tend to be more field dependent. But whether it's social class level, or what type of home they come from in other ways – parental discipline, for example – is still a question to be answered.

Alan: *Is this resurgent understanding about cognitive style being applied to classrooms?*

Jim: Yes. Some researchers are doing everything they can to train teachers in these areas. The concepts are not difficult, but the *clustering* of traits is brand new to many of them. Teachers see faces and revive names in their minds as they're hearing about this because it fits their experience.

Traditional teacher education has not prepared teachers for minority students.

Alan: *"Ah, so Sally was a field dependent!"*

Jim: You bet. So after helping them to understand the theory, the next step is to get into instructional strategies that give more attention to the preferred ways of learning of field dependent people – working in a group, working noncompetitively, hearing a lesson that always begins with an overview – so that the student immediately feels comfortable with the parameters of the lesson that's to come, and can then deal with the details.

Traditional teacher education has not given teachers special preparation for minority students. Education faculty were not aware themselves of this literature. Or too many faculty thought, "This is the way *I* learn. Anybody else can learn in the same way." So they prepared teachers to go into the classroom assuming that everybody was middle class and White – in their learning styles, their values systems, and in every area of learning preference.

Alan: *With not very positive effects, it appears. What vision do you have for our educational system, say, ten years in the future, when cognitive style difference might be fully integrated into the curricula and into the teachers' understanding? How would schools look and feel different?*

Jim: For one, we would have a more visibly heterogeneous society in the classroom, and each different group would be clearly making its contribution. The strength of the field dependent type would start coming to the fore, and teachers would have more of an idea when to teach something in a field dependent and when in a field independent manner, because of the presence of certain types of students in the classroom. It may also be that some content areas lend themselves more to teaching in one manner than the other.

Before I go further, I should say that what's needed in the classroom is a *balance*. We want the strengths of field dependent kids to be attended to, but we also want to help them develop in the areas where field independent kids are strong already and vice versa. Let each type be encouraged to make their contribution to learning, to classroom discussion, to the identification of values. I think these two areas get into values rather quickly.

Alan: *How so?*

Jim: For example, field independent types do not value working together toward an end. In fact, some of them *really* dislike it. They feel slowed down, or they feel they can't do it their way, or they just don't want to learn from a peer – they're loners. And they've done *well* as loners.

I think those types in our society need to know the value of working together, of submerging individualism for the sake of a group goal, which is what many field dependent students bring into the classroom by virtue of their background. They've *had* to have that value to survive in their community. Remember, the field dependent types tend to be minority. There are often few resources in their communities, so they know the value of sharing. And they are more sensitive to human need – not that the field independents are insensitive, just unaware.

Alan: *Because they have less need to be sensitive to other people's needs.*

Jim: Exactly. You might say they don't get the learning opportunity. They don't hear the talk in their own family about great needs, and how they are going to be met.

Alan: *What drew you into this research?*

Jim: When I went to graduate school, people knew I was of Mexican background, and I was expected to be an expert in areas where I was not an expert at all – namely, minority issues. This experience is not uncommon for many minorities.

But I was glad to start directing my research interests, my studies, and my writing into these areas. For one thing, it was expected. For another, I wanted to know what I was talking about. I wanted to be able to explain why so few of my relatives went to college, and to my knowledge only one had ever graduated, and *none* had ever gotten a doctorate. And I come from a stock of large families – I have thousands of relatives in southern California.

It's also an inherently fascinating area of research. And the reinforcement I have gotten from doing training in school districts, and working with many teachers throughout the country, has certainly been an encouragement to continue.

Alan: *Do you experience yourself as field independent or field dependent?*

Jim: In some ways, I am very much field dependent. But I have also learned to be quite field independent too – I think I've *had* to become somewhat bicognitive.

Alan: *Do a lot of minorities develop that capacity in order to succeed?*

Jim: Actually, those who go on for advanced degrees tend to diminish their field-dependent original nature for the sake of doing well, being like their professors, answering questions the way professors like. What's rewarded grows. And it's too bad. We are very possibly lacking a whole world of minority researchers who could have developed on their own strengths – and stayed that way.

Alan: *Are you hopeful about the spread of this understanding into the classroom?*

Jim: I wish I could give you a quick yes, but I can't. I'm just one person. Of the many I touch in my classes, there are some who resist and say "This means nothing." But the great majority of students say things like, "I wish everybody could take this class," and "It's been very meaningful," and they're very reinforcing.

But there aren't an awful lot people with an educational psychology background such as mine – and with a minority background – who have gone into this field and who can expound on this literature. If there were many more, I would be more hopeful.

Another reason I can't give you a quick yes is that I have colleagues on the faculty here who are not at all impressed with this approach. It's a "difference" approach – we view minority students not as lacking, but different. Another major view is the *deficit* approach, which says these minority students are clearly lacking and that is why they do poorly in school.

Alan: *Do some people see what you're doing as diminishing the chances for minorities in some way, by pointing at the wrong source of the problem?*

Jim: What I more often hear is, "We tried that and it doesn't work." Or, "The real problem is that minorities are not encouraged to be educated." Which is ironic, because among the Black and Hispanic communities education is prized more highly, I think, than in the White culture.

But I do hear things to the effect that difference theories miss the real problem, which is deficiency on the part of minority student, and that we have to change the *student* rather than the school. You see, my theories suggest "Change the school" – change our way of teaching, the nature of our textbooks, certainly change the testing that we administer to young people.

Society has got to realize the value of teachers and demand better pay for teachers at all levels.

And there are educators who don't want to be changed. There are actually White colleagues who think they made it on their own. They don't understand that being White, having blue eyes, having college-educated parents – if this is the background you came from, you *didn't* make it "on your own."

Alan: *How do your minority students themselves respond to being identified as different?*

Jim: When minority grad students hear, from me, the case I present for their being different but not inferior – the ways in which I feel they can differ in intellect, value systems, learning styles, and the potential contribution that is theirs to make if their differences were only acknowledged – they are all in favor of it. They may have shied away from wanting to think of themselves as different, because the uninformed person will think differences mean deficiencies.

I don't believe that at all, and I don't think the research shows that. That's more the White-culture view of some people – that to be different from the "standard American" is to be deficient.

Alan: *What needs to happen now?*

Jim: Although the situation is bad now, it's going to be far worse within a decade if we do not bring more minority teachers into education. We have virtually no minorities in the teacher training program here – and we can't get them. Even when we practice affirmative action, they're not coming to college to be teachers.

Society has got to realize the value of teachers and demand better pay for teachers at all levels. And we have *got* to help more faculty – and more than just the few minorities everybody looks to – to include some of these concepts in their teaching. I would hope for more of a college-wide responsibility to prepare teachers to do better by way of the minority students in their classrooms. ▲

The Compass Of Meaning

The mission of new computer-based educational technologies is to help learners follow the lead of their own needs for meaning

by David Boulton

The other night my five-year-old son Daaron and I went out for one of our evening walks. We like walking at night. It blends high energy and subtle-mindedness, and helps us tune in to being *together*.

Normally when we walk we avoid bringing any toys or things which might be distracting. Walking is a special discovery time, and we both enjoy *dis*covering who we are and whatever else we encounter as we trek around the neighborhood. But on this particular night, Daaron was rather set upon bringing his latest "Construx" creation. He was very enthusiastic as he told me that he had "a new invention to share." So I said, "Okay – bring it along."

The "device" (his word) had a body like a jet cockpit, wing-like struts which proceeded from its sides, a small spinning cylinder for a nose and a curious handle connected to its rear end. On first sight I wondered if it was a space ship, a magic sword or, possibly, a "pk valence meter" (the Ghostbuster meter for detecting slime).

David Boulton and 5-year-old Daaron, inventor of the "radar helper"

At first he said nothing about his new invention. But when we encountered a roly-poly bug, Daaron and his device sprang into action. Dropping into his curiosity crouch, he placed the invention, as if it was some kind of magnifying glass, between his face and the bug. As he got closer, strange whirling and clicking sounds came forth, and in Daaron's best imitation of synthetic speech, the invention began describing all that was known about roly-poly bugs. At points, Daaron stopped to show me "visuals" on the device's make-believe display – how the bugs' legs worked and how great the idea of rolling into a ball was, much better than a snail's shell.

As I crouched alongside rather speechless, Daaron went on to describe the device as his "radar helper." He said that it would work on anything – telephone poles, cats, stars, trees – no matter what it was focused on, he would get pictures and sounds and be able to ask questions and immediately understand whatever it was he was curious about.

For reasons that will hopefully become clear as this article progresses, I was delighted and stunned. Over the remainder of our walk Daaron stopped dozens of time to use his "radar helper" and, I think, make sure that I understood the significance of his invention – "Dad, don't you think every kid should have one these?"

Jump ...

About two years ago I used a VCR and microphone to record a group of three- to five-year-olds as they were playing Nintendo games. I wanted to understand what made the Nintendo experience so **engage*able*** for children – why it was so easy for them to become deeply involved. Having wired them up, I asked them to describe what they were doing and then made myself invisible.

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From previous observations it was clear that themes (i.e., Batman, Turtles, etc.), whizzy sounds, and sophisticated color graphics were not the real issues. While they attracted the child's initial interest, some of the most apparently spectacular games were missing something that others far simpler had – the ability to sustain the child's engagement. My hunch was that underneath all the multi-media whiz-bang engagement was a relationship quality between child and game that emerged if the game's deeper ***rhythms of play*** were compatible with the child's nervous system.

What I discovered was that the most engagable Nintendo experiences shared certain "deep dynamics." They all involved moving through a matrix of challenges and obstacles; learning certain movement skills and dexterities; using one's "energy" or "lives" judiciously; and most importantly, learning when and how to freeze the game playing, jump "off-line" to a resource screen, select a resource with which to overcome an obstacle, re-engage the play screen and employ the resource to move ahead (resources might include ladders, hammers, magic potions, jewels, rafts, money, food, or a consulting wizard).

I still remember how I felt as I started to see beneath the surface of the game-playing. The conceptual dexterities of these kids were stunning: here they were manipulating a rich tapestry of logical types, levels of inference, multiple contingencies, numerous specific meanings – doing it all very dynamically – and all with an effortlessness that was breathtaking to behold. I couldn't help thinking that they were practicing the *future*. Somehow, I felt, they were practicing not the game's content, but the future process of processing. *How was it that these kids could deal with so many interrelated contingencies and meanings at once?*

Asking that question and reviewing the tapes, I saw cycling rhythms of challenge, frustration, creative resource application and renewal that were at the core of why they enjoyed playing the games. Yes, the sound and graphic effects were important components; but it was the way the games allowed the children to act creatively upon their own frustrations – the cycle of relevancy, challenge, frustration, and resolution, all happening in *real-time* compatibility with the actual child's attention, that I found to be the key.

Small (Quantum) Jump ...

Just as our eyes see optimally only a particular range within the frequencies of light and our other senses particular ranges within the frequencies of matter, what if our nervous systems have an overall optimal range for resonating meaningfully with our environments? For *co-implicating* the not-nowness of our memories and the all-at-onceness of our senses into the stream of our consciousness? What if underneath all the issues of content, logic and pedagogy, there is a more basic issue – the inner dynamics of how a multiplicity of meanings implicate one another and punctuate the rhythms of engagement?

Daaron Boulton in his "curiosity crouch"

Jump ...

About four years ago I began asking some of my friends: When you're reading a book and encounter a word or term that you don't understand do you (a) put down the book and dig into your references, (b) just move along and hope it's not too important or, (c) hope that, if it is, further reading will fill in the meaning? In other words I asked: What do you do when you have a "need-more-meaning" impulse? I wasn't surprised to find them saying that if the material wasn't critically related to their jobs they just skipped over whatever they didn't understand. Stopping to look things up, even when the references are handy, is just too distracting.

The conceptual dexterities of these kids [as they played Nintendo games] were stunning. I couldn't help but think that they were practicing the future.

Questioning literate adults about what happens while reading a book is almost like asking about their breathing. So I took the point one step further. I had them remember back to when they were a child in school and asked: "How many times did you raise your hand when you were curious or uncertain?" Like my own memory of being in school, my respondents all said "Not too often." I then asked, "How often were you uncertain or curious in class?" Again, like me, they tended toward "A lot more often than I raised my hand."

What I was fishing for was how these "learning environments" unintentionally stifled the expression of a person's curiosity or uncertainty. I was keenly interested in this because, despite being a highly motivated learner, I often

found myself disengaged from learning. How was it that I could be moving along, engaged and full of interest one moment, and disengaged and drifting the next? I discovered many reasons, but the only ones I could do anything about (short of food, sleep, or a soundproof room) were ones relating to how I resolved my own "meaning needs."

How could I participate in my own learning without a sharpened sense of my own uncertainties?

If I didn't follow up on something I was uncertain or curious about, two things happened. First, I passed over something I arguably needed or at some level desired to learn. Second, and more importantly, in doing so I was tacitly *dulling* myself to *feeling* uncertain or curious. The more I thought about the latter point, the more I was convinced something was wrong. How could I ask questions, how could I participate in my own learning process without a *sharpened* sense of my own uncertainties and curiosities? What other "compass" do I have?

JUMP ...

It's 2010, and your 7-year-old grandchild has just returned from a vacation in Yosemite where she discovered the wonder of trees. She is watching a clip on environmental consciousness with her **INVISOR** ("information advisor") when a beautiful tree in the background reminds her of the questions that flooded her mind at Yosemite. The invisor tracks what she looks at and so when her eyes pause to look at the tree, and she says "more", it knows exactly what she means. The invisor zooms in on the tree and informs her through familiar icons that she can explore "trees in general" or explore this particular "kind of tree."

By slightly moving her finger she selects "trees in general" and a new series of icons appears that offers her half a dozen ways to travel further. The "time machine" icon, she knows, will allow her to look at the broad scale evolution of trees or at the comparatively short scale growth and development of an individual tree. The "shrinking machine" icon will allow her to become a "virtual shrunken observer" and travel inside the tree, examining its inner forms and processes. The "space ship" icon will allow her to examine the macro role of trees from a global, "orbital scan" perspective. Just in case she doesn't want to explore such depths, three "advisor" icons allow her to watch and listen to a "storyteller", a "scientist", or a "tree expert" who will walk her through the major significances of "trees."

After a quick jaunt through the time machine where she watches in time-lapse the seed grow out of and into the ground – witnessing the intelligence of the tree as it grows in response to the sun and the terrain and other trees which make up its environment – she selects the "storyteller." Because she is interested in practicing her Russian, she also sets her invisor for bilingual (Russian/English) operation. If she gets stuck in Russian, the system will have an English "safety net" ready to help her. Moving on, she sees that there are many stories and myths available. As she encounters the one entitled "gravity dancers", the word gravity causes her to pause and when she says "more", a new series of icons appear.

These new icons deal with different classes of reference support. One is for quick, concise help similar to an old dictionary or thesaurus, another is for elaborations similar to old encyclopedias, the "in context" icon will clarify the word's specific use, and still another will cause the invisor to reorient itself and make "gravity" the central thematic domain. After having gravity pronounced (the voice in her head had trouble with it), she decides to really explore gravity and come back to trees later.

The "time machine", she knows, will allow her to see gravity at the broad scale, evolutionary level....

CO-IMPLICATION

By nature, whether for knowing, doing, or being, learning is a process of extending the capability to be relevantly present to what is being experienced. If we could re-craft our relationship with information so that it better corresponded to the way our nervous systems have evolved to learn – that is, have evolved to *process relevancy* – that new relationship would be based on responding to the immediate (micro time) meaning dynamics of the individual who is learning. This is the destiny of technology in education.

(The roots of the word "technology" are quite interesting. In root, "tech" means *to show* or *to guide*. If you add the letter "n", the root "techn" means *art* or *skill*. When at last you add "ology", in root meaning *discourse* or *study*, you end up with the word "technology" being composed of some pretty appropriate "modules of meaning" for a discussion on the role of *educational technology*.)

It must be remembered that everything about our relationship with information is technological anyway. These words printed on the page

you're reading, what they mean to me and what they mean to you, are all technological processes. You and I have both learned an "inner interface", an inner technology which transforms symbolic information (also a technology) into a process within us, wherein various past experienced meanings *converge into relevancy*. We invented it all. There is nothing to be romantic about.

What we do need to be careful about is the distinctions we make between the roles of *interpersonally-facilitated* learning and *technology-mediated* learning. From a learner's perspective, there are areas of the educational curriculum – and more importantly, life – that are best facilitated by interpersonal and direct contact processes. Technology is not a substitute for (though it can at times augment) collaborative learning, co-mentoring, team teaching, group dialogue and of course, one-on-one relationships. Similarly, actually contacting and caring for other forms of life, from flowers to livestock, is entirely different from learning about them in textbooks or on video disks. But just as there are aspects of learning we need to mediate minimally, there are aspects of knowledge which by their nature are so abstract that they are best facilitated through a technologically-mediated relationship with that information.

As I have tried to point to with each "jump", the real issue is *relationship*. The relationship a learner has with the environment that is supporting or actively facilitating learning is the single most important aspect of learning. In order for a learning environment to facilitate learning, it must be responsive enough to the actual individual's *needs for meaning* to encourage him or her to *employ* those needs in driving the learning process.

For a learning environment to steward the learner's sensitivity to his or her own meaning-needs (internal) while at the same time facilitating an integration with rule-based critical thinking skills (external), it will need to employ, in addition to explicit pedagogies, a new general relationship model. This requires a different conceptualization of the relationship between learners and information – one in which access to knowledge, everywhere possible, is organized and made available according to the relationship-with-meaning needs (in time and context) of learners rather than the structural conveniences of the subject material or the mediating technology.

This is the significance of Daaron's invention and the Nintendo observations. Essentially what he conceived of is a companion that responds to his immediate curiosities and uncertainties. Nintendo confirms that the "disengagement" issue isn't just an artifact of the classroom or textbook. Special media effects aside, if children can't resolve the tensions produced by the uncertainty surrounding an obstacle, in time they become too frustrated and disengage. If, however, the environment does provide them with ways to *resolve* their tensions, through resources available to them *in time*, they can apply their significant conceptual dexterities for as long as the subject/activity remains relevant and challenging (and their teachers or parents let them).

We all need INVISORS.

From Here To Implicity

There are not yet any "radar helpers" or "invisors" as envisioned here, but the technical capabilities to provide learning environments capable of dealing with any subject-content in ways consistent with the relationship principles that they both imply exist today. Learning Insights, a company I founded to explore these issues, is developing just such a learning environment.

Technology is not a substitute for collaborative learning, team teaching, or one-on-one relationships.

The "learner interface" and information processing systems we are developing will provide the same navigational, representational, and referential dexterities as those of the invisor. Our goal is to develop a learning environment that can be run on existing personal computers and that will ultimately define a new class of machines – machines designed entirely to respond to, empower, and enliven the learner.

Toward these beginnings, I spend part of my time with Learning Insights and part of my time at Apple University learning about, experimenting with, and creating virtual learning environments. And I spend *all* of my time trying to learn about the depths of the significance of learning and how to change our relationship with learning environments.

And, of course, I take plenty of walks with Daaron. ▲

David Boulton, a developer of technologies exclusively for learners, is President of Learning Insights Inc. and a special consultant/contractor to Apple University. His interest is in "understanding the 'inner interface' we all learn in order to mediate 'what is.'" He is developing technologies which will model a new relationship between humans learning and their learning environments. Contact him at Learning Insights Inc., 150 Almaden Blvd #760, San Jose, CA 95113, 408/984-2880; E-Mail CIS 76357,341; AOL Learner2.

UNFINISHED BUSINESS

There is much still to be done to make multicultural education a reality – and project REACH is doing it

by David Koyama

Within ten years, one in three Americans will be from an ethnic minority group. The nation's fifty largest cities will have a majority student population coming from these ethnic minority groups. The bulk of America's sunbelt, including California and Texas, will have "minority majorities" in their public school systems, giving new meaning to the term "minority".

Yet it is clear from all of the focus on "at-risk" populations that we are not doing well in educating this increasing segment of our nation. And when the *Christian Science Monitor* reports in November 1986 that black students are labeled as mildly mentally handicapped more than *three times* as often as white students, our underpinning national assumption that all people are created equal takes on a hollow ring.

An American Indian parent shared that "In thirteen years of education, this program is the only chance my children get in school to read their own history."

The truth of the past ten years is that we still have a lot of unfinished business.

It has always been one of the major educational responsibilities of schools in the United States to prepare students for participation in a multicultural democratic society. Schools are encouraged to develop programs and curricula that reflect our nation's cultural diversity and enhance our students' ability to relate in a multicultural society.

Sadly, for the past ten years, there has been only one multicultural program validated through the National Diffusion Network and the Department of Education as a program that does just that. This is Project REACH – an acronym that stands for Respecting Ethnic And Cultural Heritage. Taught at the middle school level, the program was judged to have increased students' level of knowledge of the history and culture of Asian Americans, Hispanics, African Americans, and American Indians, while increasing the degree to which students valued cultural diversity. The latter measurement was obtained using the Bogardus Social Distance Scale, a survey which measures the degree of social involvement preferred by a student for different ethnic groups.

The REACH program is divided into four phases. The Human Relations Skill phase seeks to enhance self-awareness, self-esteem, and interpersonal communications. The second phase, Cultural Self-Awareness, provides the students with the opportunity to explore their own personal cultures. This culminates in a school-wide cultural fair with student projects on display. In the third phase, Multicultural Awareness, the students use a set of booklets, *The Ethnic Perspectives Series*, which presents American history from diverse ethnic points of view. The recognition of multiple perspectives is a key principle to multicultural education. As one American Indian parent shared with his school board: "In thirteen years of education, this multicultural program is the only chance my children get in school to read their own history." For the fourth phase, Cross-Cultural Experience, learning is applied and made personal through exchanges with students and adults from different ethnic groups.

More recently, an elementary program has emerged from the REACH Center in Arlington, Washington. Called REACH for Kids, the program provides teachers with a model curriculum K-6 that demonstrates what multiculturally infused units might look like. This is accompanied by a strong teacher in-service program to provide the conceptual background and support for im-

plementing multicultural concepts into other parts of the curriculum.

REACH for Kids also revolves around four considerations. The first is an integration-of-disciplines approach so that multicultural education is seen as more than social studies. This also minimizes the "kibbles and bits" approach to curriculum and develops themes more realistically.

Another consideration is for enhancing self-esteem. A number of studies have tied self-esteem to tolerance for diversity. Multicultural education must contend with the hearts as well as the minds of students.

The third consideration is the examination of instructional strategies to deliver the curriculum. Units are often written for cooperative grouping activities which reinforce the human relations skills that students must learn and practice. Teachers are reminded to examine some of their instructional practices that may have become unintentional impediments to equitable learning access for different students.

The final consideration is to distinguish between multicultural and global education and to build the bridges that link these concepts. Global education refers to all the diversity beyond our national borders while the former encompasses the cultural diversity within our country. Studying Japanese folktales may not have anything to do with learning about Japanese Americans. While both activities are important, too often the development of global perspectives de-emphasizes the importance of multicultural understanding. When a second-grade teacher said that she always taught multiculturally because she taught units on Japan and China, she was missing the point. In World War II, others missed the same point, much to the dismay of Japanese Americans.

Unfinished business. ▲

David Koyama is Affirmative Action Officer for the Bellevue, WA Public Schools and the Director of REACH. Contact REACH at 239 N. McLeod, Arlington, WA 98223, 206/435-8682.

MULTICULTURAL RESOURCES

When we think of multicultural education, we think first of opportunity – equal educational opportunity. This means deliberate intervention to enable students to achieve at their highest ability levels. It also includes accurate lessons in world history, a reverence for the contributions of diverse people, and ensuring enriched multicultural, multiracial and multigenerational daily experiences. But for this to happen, our teachers must be aware of several issues:

First, they need to know of important contributions to this country made by numerous minority people. These include, for example, advances such as blood plasma preservation developed by Dr. Charles Drew, the technique for open heart surgery developed by Dr. Daniel Hale Williams, and the innovative work of Dr. George Washington Carver.

Second, teachers need to be knowledgeable about the materials available through the school district. Excellent resources have been assembled and curriculum developed, yet they are often not used. Included among these are the *Responsive Multicultural Basic Skills Handbook for Teachers and Parents: Overview* by Francione N. Lewis (1984, reprinted in 1985 and in 1986 by the State of Washington Superintendent of Public Instruction); the *Social Studies School Service Catalog* available from 10200 Jefferson Boulevard, Room 171, Box 802, Culver City, CA 90232; the extensive resources of the Educational Materials and Services Center, 144 Railroad Avenue, Suite 107, Edmonds, WA 98020; and the Massachusetts Institute of Technology's 1990 *Action Plan for Minorities* .

Third, teachers need to understand that respect for culturally diverse students is important to student achievement. This is simply sound educational theory – the environment plus the information should promote high-level learning.

Fourth, teachers must be proficient in speaking English in order to model and to teach. For example, correct phonetic sounds must be repeatedly heard by students for them to read and to write clear sentences. Non-English speaking students should be taught by teachers with strong English skills.

Fifth, consultants like Dr. Ed Nichols and Dr. Asa Hilliard are invaluable for training staff when the focus is directed toward multicultural education for all teachers and administrators. This training should not simply be an option.

Multicultural education speaks to truth! It answers questions about America that explain why the haves have and the havenots have not. It prepares American students for a world marketplace by recognizing that attitudes affect outcomes in every arena of human interaction. It must revolutionize the current American educational institution, which is unsuitable for a kaleidoscopic world. We, as parents, students, school personnel, legislators and organizations, must unite to make schools work as they should for all of our children.

– Millie L. Russell and C. Sybil Brown

Millie L. Russell is Assistant to the Vice President, Office of Minority Affairs, U. of Washington. C. Sybil Brown is a retired Public School Principal.

Developing Motivation For Lifelong Learning

Helping people of all ages feel interested and excited about learning is one of the most valuable gifts one can offer

by Raymond J. Wlodkowski

Children are naturally curious explorers. Infants search their environment to make sense of it. Toddlers ramble awkwardly but with determination, pushing and pulling everything in sight to find out what "it" does. Parents know that the very young inhabit a galaxy filled with wonder and have a voracious appetite for learning.

But while motivation to learn is an in-born capacity, eventually it becomes a personality characteristic largely determined *through* the process of learning. Children literally *learn* to be interested in math, fascinated by science, and intrigued with art. They can also learn to be interested in drugs, fascinated by violence, and intrigued with gambling. The motivation to learn does not disappear, but it can develop in ways that lead young people to better themselves and society – or not.

Children who possess a strong motivation to learn have a future blessed with discovery, opportunity, and contribution. They have a natural bent to do those things that will lead to occupational success in the 21st century and benefit the positive evolution of society. People who possess motivation to learn may find external barriers of circumstance and prejudice – but they are not their own enemies, and they are the most fit to learn ways to overcome such obstacles. They are the most likely to be capable of creativity and excellence because the best in science, scholarship, or art cannot be coerced from an unwilling heart.

This kind of learner is graced with a perspective that makes the difficult desirable. Learning is often extremely difficult and risky. We may not be able to learn something well, and we often do not know this until we have tried for some time without apparent success. However, continuing attempts and dogged perseverance often precede great discoveries (Salk and the polio vaccine) as well as everyday academic progress (successful writing). Diligence and endurance within a framework of love for learning enoble the human spirit.

What Influences Motivation?

Culture • Every ethnic group has stated and implied values regarding learning in the academic or traditional sense. These values are transmitted through such avenues as the dominant religion, the myths and folklore of the culture, political legislation for education, the status and pay of teachers, and the expectations of parents. Those societies which make the education of children the highest of economic and social priorities greatly enhance the development of motivation to learn among their younger members.

The Family • Studies of well-motivated, successful students reveal that they come from *effective families.* Among the more salient characteristics of these families are: a feeling of control over their lives; a view of hard work as a key to success; high expectations for children; a view of the family as a mutual support system; frequent contact with teachers; and an emphasis on spiritual growth. Such habits and values remain true for single- and two-parent households and for families with working and non-working mothers.

School • Effective teachers frequently share parallel traits with effective families. They are enthusiastic about students learning their subject, and students feel safe with them and know that *with effort* they can learn and complete assignments. They know that these teachers will not reject them because their grades and scores are less than those of someone else.

Learners • Learners are not passive. There is a give and take between the learners and their families, teachers, and cultural institutions. As in a conversation, learners actively influence what teachers or parents will do next and are influenced by their responses.

The wisdom of Johann von Goethe suggests

a clear path: "Treat people as if they were what they ought to be and you help them become what they are capable of being." Nurturing the following perceptions in children or adults will allow those who already love learning – as well as those within whom only a spark of such an ideal exists – to continue their evolution toward a more fully realized embrace of motivation to learn.

- Valuing the *way* something is done more than the end accomplishment
- Realizing that *effort* is the constant companion of personal excellence
- Knowing that mistakes are a natural and instructive part of learning
- Holding oneself responsible for most of what is learned
- Seeking to make the process of learning as pleasurable as the result
- Cherishing knowledge and competence above grades

Harmony For Development

If the culture values effort as a necessary part of learning, and the family and school are in total agreement in their support of this value, the learners will know, accept, and identify with this same value. They will see it as the natural way to be, modeling and reflecting it within the family and school to which they belong.

In that spirit of harmony, the following guidelines are offered for institutions as well as individuals, and for children as well as adult populations. They are offered as models to use as inspiration for one's own creations.

- *Treat the person as continuously growing toward increased self-direction and effectiveness.* Such treatment develops motivation to learn because it helps to develop attitudes and *habits* of self-direction – and most of learning is self-directed. When people have a voice in what goes on in their own lives, they see how their growing knowledge and abilities extend the boundaries of their lives. Learning makes sense as a means to enjoy and contribute to their world.
- *Actively model and share a value for learning.* It is cliché, but it is so powerful: When it comes to learning, practicing what we preach is essential.
- *Model, acknowledge, and celebrate effort in the pursuit of a chosen goal.* Acquiring knowledge often requires the traits of perseverance, endurance, and diligence. If motivation to learn is ever to become a person's value, that person will have to view effort in the service of learning as a natural and admirable personal trait – a matter of honor.
- *Consistently offer a sincere expectancy that the person can learn effectively.* When it comes to learning, the attitude projected to the learners is, "Yes, you did; and yes, you can; and yes, you will!" The help we give is "just enough" – no more, no less, because limited assistance will enable our learners to retain credit for resolving the difficulty and to build their self-confidence for other trials later.
- *Help the person to structure appropriate study habits.* The essential ingredient is helping the learners to find a way to make studying a regular priority in their daily routines. This makes learning more automatic and enjoyable because other expectations or needs are always considered relative to, rather than in competition with, studying.
- *Support parental involvement in their child's school throughout all the years of formal education.* The evidence is beyond dispute: parent involvement improves children's attitudes toward learning and helps to motivate the children to be successful in school. The form of involvement does not seem to be as crucial as that it be reasonably well planned, comprehensive, and long lasting.
- *Help the person to develop an identity as a learner.* Identity is a powerful motivational force. People do many things because they literally tell themselves who they are and what to expect from themselves: "I am a *parent* and it is important for me to be the one to help my child with this problem." "I'll go because I am her *friend* and she needs me now." To identify oneself as a learner can automatically cue a framework of attitudes and attributes that benefit motivation to learn.

These guidelines are as much about values as they are research findings or psychological insights.

These guidelines are as much about values as they are about research-based findings or psychological insights. Members of society can make conscious decisions about which values they choose to respect and advocate. Since the future of society will be a rolling echo of these determinations, creating a social awareness which fosters lifelong motivation to learn is not so much a matter of altruistic idealism as it is a simple reach for a decent life for as many people as possible. ▲

Raymond J. Wlodkowski is a faculty member at Antioch University in Seattle and The Fielding Institute in Santa Barbara. He is a licensed psychologist and consultant to national and international organizations, as well as the author of several books on motivation and learning, including Enhancing Adult Motivation to Learn *(1985), which received the Philip E. Frandson Award for Literature.*

LEARNING HOW TO LEARN

The Mediated Learning Experience (MLE) can help you overcome learning blocks – and awaken you to the process of learning itself

An Interview with Kathy Greenberg, by Duane H. Fickeisen

Learning, which begins before birth, becomes ever more important as the pace of change accelerates around us. Whether it involves learning how to better influence the future, or developing the needed skills for earning a livelihood, learning can be empowering, fun, and energizing – or it can be frustrating and discouraging – depending on your skills in learning. But how can we learn how to learn?

Kathy Greenberg, Associate Professor of Special Education at the University of Tennesee, Knoxville, works to help teachers mediate *their students' learning experiences so that students gain practical skills in problem-solving. Her COGNET program, based on Reuven Feuerstein's Mediated Learning Experience (MLE), makes the power of effective mediation widely accessible.*

Developed by Feuerstein over 30 years ago, the theory of MLE complements the earlier work by the Russian researcher Lev Vygotsky, who developed mediation as a way to assist learners in developing cognitive processes. Feuerstein extends this work to a broad cultural setting and considers what can be done to help people overcome common impediments to learning.

The theory is comprehensive and complex, and consequently it has proven difficult to understand and apply for those outside the fields of psychology and special education. Kathy's success with the application of mediation led her to seek ways to make the theory and skills in its use more widely available to parents and all professionals who provide services to learners. The 30-hour COGNET training program provides an introduction to the theory and tools to use in mediation. Participants learn to diagnose hindrances to learning, to help their students understand basic factors which affect learning, and to use learning tools efficiently.

Thanks to the US Department of Education Follow Through Program grant #030913, the program – now in its third year – is available at a reduced cost, and training workshops for parents and professional educators have been conducted in several states. An interactive video training program based on Greenberg and Feuerstein's work, directed by Quicksilver Productions and New Horizons for Learning, will be available in Spring 1991. For more information contact Dr. Kathy Greenberg at COGNET, 321 Claxton Addition, The University of Tennessee, Knoxville, TN 37996-3400, 615/974-2321.

Duane: *How did you get involved with the Mediated Learning Experience?*

Kathy: I was teaching young adolescents with learning disabilities in 1975, and I was looking for a way to help them learn to think. I felt I had some handles on how to help them learn to read and do math and other things. But they just weren't *thinking*.

Then I heard that George Peabody College for Teachers in Nashville wanted teachers to volunteer to receive training in a program on "learning how to learn," and then to implement that program for evaluation. The program was Feuerstein's "Instrumental Enrichment," a world-renowned program which applies the comprehensive theory on which COGNET is based.

During the very extensive, 40-hour training, I began to see ways to pull together some things that I had always known at an intuitive level. And when I *used* the program, the kids in my class – mostly adolescent boys – began to behave better and to pay better attention almost immediately. They began to speak up more, and there was an inaudible sigh of relief – "You mean I'm not *lucky* if I get it and *unlucky* if I don't? You mean I can be *responsible* for my learning?"

I still get goose bumps when I think back to that class and how they began to change. They began to see that there is a *system* to the way you look at the world and how you go about learning and solving your problems.

When I entered higher education, I began to work on ways to train others. It is difficult for people to get into this theory at first unless they come from the field of developmental psychology. So for eight years I worked on ways to share this theory quickly with more people. With the primer that we now use in COGNET, people are

able to understand it and use it in a relatively short time.

Duane: *I've found the theory somewhat inaccessible, too! What is the Mediated Learning Experience?*

Kathy: It is easy to get too wide a focus, so it's better to pinpoint certain principles and stick to them to explain the theory overall.

According to Reuven Feuerstein [of the Hadassah-WIZO-Canada Research Institute in Jerusalem, Israel], who developed the theory of Mediated Learning Experience (MLE), mediated learning occurs whenever an individual deliberately places him or herself *between* external or internal stimuli and the learner, and *transmits* the stimuli in a particular way to that learner.

What distinguishes MLE are three particular characteristics which must occur within the interaction – intent, meaning, and transcendence.

Intent refers to the intent of the mediator, the caregiver, the teacher, or whomever is in charge of the interaction, to focus the attention of the learner on some particular thing. For example, if a young child picks up a ball, the mediator would help the child to look at some part of the toy or see some cause and effect – such as the way you can make a ball spin when you turn it a certain way. The mediator will focus the child's attention *there* rather than just following the child in whatever way the child's interest might fall. Of course, the mediator must pay attention to the child's interests and change her own behavior accordingly. The point is that the mediator makes sure that the learner goes *beyond* the immediate needs of the situation, in some manner which would not occur without the mediator's focusing behavior.

The second characteristic is imparting *meaning*. The mediator helps the learner interpret the stimuli so that the experience has a special meaning that it might not have otherwise. To continue with this example of the ball, meaning can be brought out in a specific way – related to certain stimuli, such as watching it bounce or spin – so that *significance* attaches to this as a very special and unique toy that you can do things with that you can't do with other toys. Imparting meaning provides a *power*, as Feuerstein refers to it, that keeps a person involved in the interaction so that he or she is much more interested in participating.

The third characteristic is *transcendence*, which has to do with making connections between the specific and the general. Transcendence is the heart of mediation. It involves moving beyond the immediate needs of whatever is going on in the current situation, or task, or what you're thinking about to develop the potential to apply it elsewhere in slightly different ways.

It can be very difficult for people to learn a skill and be able to apply it in different situations. For example, people with learning problems who are learning to add and subtract may find it difficult to add and subtract in another classroom with a different teacher. Transcendence helps the person rise above the immediate stimuli and get a different perspective.

There is some culture transmitted from television, but it's not mediated – people are just exposed to it.

It is important to note that mediation is often done very implicitly. For parents in primitive cultures who don't read, for example, no one has said "This is how you help the kids learn how to learn." Instead, what's been said is "This is what parents are expected to do in our culture." You need to share certain things with your children or else you are not going to be respected by other members of your society.

Today we are finding a breakdown in cultural transmission, particularly in our country. Maybe the parents and children are there in the home, but they are watching television. And yes, there is some culture transmitted from television, but it's not *mediated* to people. They are just *exposed* to it.

Duane: *The theory of MLE seems intuitively correct to me. Yet in your surveys of classrooms at various levels, you found mediation was very often not being used effectively to help children learn how to learn.*

Kathy: That's right. And I believe part of the reason is that there has been so much emphasis on basic skills that we are teaching *isolated* skills. There is very little opportunity – and in fact, sometimes teachers are told that it's *wrong* – to make broader connections. But if you isolate skills, you must help students place them in the context of the real world, or they will have many difficulties using them when they are needed in real life situations – as well as difficulties in learning them in the first place. If you don't help the learner find personal relevance in the skills, then you've created a worse problem.

For example, most adults today went through language arts. We had all those stupid sentences that had no meaning to us, and we were to go through and correct the punctuation and grammar. Year after year after year we did these things, and we know today that this approach is not very effective. We need to create *personally relevant* exercises – things that people edit because

10 Building Blocks Of Thinking

The Building Blocks are prerequisite skills upon which thought processes are based. In the Mediated Learning Experience, the mediator evaluates the learner's level of competency and use of these Building Blocks and seeks to help develop those that are underused.

Approach to Task • Beginning, being involved with, and completing an event, including gathering information, thinking about the situation, and expressing thoughts or actions related to the event.

Precision and Accuracy • Awareness of the need to automatically be exact and correct in understanding and using words and ideas.

Space and Time Concepts • Understanding basic ideas about how things relate in size, shape, and distance to one another (space); and the ability to understand measurement of the period between two or more events and/or changes that occur due to these periods (time).

Thought Integration • Pulling together and using at the same time multiple sources of information which are a part of a given event.

Selective Attention • Choosing relevant pieces of information when considering thoughts or events.

Making Comparisons • Awareness of the need to automatically examine the relationship between events and ideas, especially in determining what is the same and what is different.

Connecting Events • Awareness of the need to automatically associate one activity with another and use this association in a meaningful manner.

Working Memory • Enlarging the thinking space in order to enter bits of information from the mental act, retrieve information stored in the brain, and make connections among the information gathered.

Getting the Main Idea • Awareness of the need to automatically find a fundamental element that related pieces of information have in common.

Problem Identification • Awareness of the need to automatically experience and define within a given situation what is causing a feeling of imbalance.

they *want* to get them in a form other people can understand, or because they want to share their own information – and not just some silly sentences in a text book.

Duane: *The COGNET program also includes ongoing evaluation of the student's learning efficiency. What's the structure for this ongoing evaluation?*

Kathy: Feuerstein describes more than 28 "Building Blocks of Thinking." But in the COGNET program, we have condensed those down to ten. We also work with eight "Tools of Independent Learning." [See sidebars.] These tools allow you to see what it is that's really causing the child problems, so you don't just say, "This child can't learn," or "This child has not learned the subject matter." Instead you are able to say, "This child did not gather all the information before starting," or "This child had no plan for learning."

If you are already a pretty good learner, sometimes there are just one or two Building Blocks getting in your way, particularly when you are having difficulty with some task. But when you get concerned or anxious or dissatisfied or unmotivated because you are having *trouble*, then you begin to use the Building Blocks less efficiently – and that causes you even more difficulty. The emotional overlay is, in large part, responsible for the breakdown in learning.

So by focusing on just a few variables, you can learn to *understand* that that's what's getting in the way. You can turn things around and become a much more independent learner.

Duane: *And that feels good and motivates further learning.*

Kathy: We know from neurological research that emotions are very much a factor in learning; they profoundly affect each other. What I like about this theory is that it doesn't just focus on the cognitive side, but looks at emotions too.

It's important to note that while this theory is used as an intervention with special needs populations, it is also a way of looking at *all* kinds of learning situations and seeing how human beings progress and develop, not just as individuals, but as whole societies and in the world.

Duane: *What does the theory have to say about assessment of intelligence and ability?*

Kathy: Feuerstein and Vygotsky agree that *intelligence* isn't the issue – *cognitive development* is.

The prevailing theory of intelligence is based on the underlying assumption that the quality of cognitive functioning determines the quality of learning experiences – in simple terms, your ability to develop understanding from your experiences determines the quality of your experiences. However, Vygotsky makes a strong case that it's the other way around – the development of cognitive function *lags behind* learning experience.

I agree with Feuerstein that both nature and nurture determine cognitive functioning – but

that the prevailing theory overemphasizes nature. Learning experiences, particularly MLE, are the major determiner of cognitive functioning.

This is another paradigm shift with profound implications for intelligence testing. When subjects are taught *how* to approach problem-solving tasks, and then retested on those tasks, it is possible to measure their *propensity for learning*. We've found that students' scores before they are taught how to solve problems are not very helpful in predicting their scores after being taught these skills. In other words, *the ability to learn how to solve problems is not necessarily related to how much the student already knows*. We believe these data support the assumption that mediated learning experiences are the major determiner of cognitive functioning, rather than the other way around.

Duane: *That could have a dramatic effect on assessment.*

Kathy: It already has. In California, Black students can no longer be placed in special education programs based on IQ scores. A very thoughtful look at this theory helped that happen.

Duane: *How do teachers change their style of teaching when they become involved in this program?*

Kathy: Teachers have changed rather dramatically – for example, in the way they question children, and in the types of answers they are comfortable in receiving from them. It doesn't have to be *the right answer* every time. Instead, they encourage children to give *partially* correct answers and think further, rather than co-opting what a child has said, calling on another child, or telling the child what to think. They're turning the classroom into a laboratory for learning instead of a stage for producing right answers.

Duane: *That sounds powerful.*

Kathy: It's very exciting to see that happen. We also find that these teachers are very much raising their expectations of children, and they are expecting more from their slower learners as well. And not giving up on them so easily.

Duane: *What's ahead for the program?*

Kathy: We plan to focus on determining the most effective approaches for implementing mediated learning in the classroom and the home. For example, we are investigating what happens when computer software is used to help students apply the Building Blocks and Tools.

But exciting things are happening regarding the theory of MLE as well. In the long run, the Russian psychologist, Vygotsky, is expected by some to have as much or more effect as Piaget has had on psychology. Most of his work is now in the process of being translated into English. For the next five years, there will be a volume out every year about his work, some of which is very closely related to this theory. As people begin to look at Vygotsky, they are going to see a need for Feuerstein, because Feuerstein provides great insight into specific aspects of mediated learning which can be used to improve cognitive functioning.

What everyone is coming to is that *social interaction* is the key to cognitive development and to learning. We've got to learn to focus on that, to see how that works, and to tap into what it is that's happening in the classroom, or one-on-one in other settings. And when we understand that better, then we can help everyone to go further and to reach his or her own potential. ▲

8 Tools Of Independent Learning

These tools are needed if a person is going to be an active generator of information and not just a passive recipient. They are described by Feuerstein as "parameters of mediated learning" and are included in the COGNET program under the following labels:

Inner Meaning • Being aware of and developing a significance inside yourself that provides intrinsic motivation for learning and remembering.

Self Regulation • Controlling your approach to learning by using metacognition (thinking about how you are thinking) to determine factors like readiness and speed.

Feeling of Competence • Knowing you have the ability to do a particular thing. Lack of this tool often results in laziness and other avoidance behaviors; presence of it results in feeling confident and motivated to learn.

Goal Directed Behavior • Taking initiative in setting, seeking, and reaching objectives on a consistent basis.

Self Development • Being aware of your uniqueness as an individual and working toward becoming all you can be.

Sharing Behavior • Communicating thoughts to yourself and others in a manner that makes the implicit explicit.

Feeling of Challenge • Being aware of the effects emotions have on novel, complex, and consequently difficult tasks; knowing how to deal with challenge.

Awareness of Self Change • Knowing that you change throughout life and learning to expect, nurture, and benefit from it.

The Case For The Arts

By cutting back on arts to strengthen their basic core curricula, schools may be taking a giant leap backward

by Eric Oddleifson

If by now you haven't concluded that the arts are a crucial part of any effort to reinvigorate learning, Eric Oddleifson will convince you. Eric is President of The Center for Arts in the Basic Curriculum, an association whose agenda is clear. Not only do they believe art education will enhance the traditional curriculum; they believe "the arts should be the basis of education" because "the deepest and most lasting learning is participatory and whole-brained. This is precisely what the arts offer." Their publications offer some impressive data to back up their case. Contact the center at 58 Fearing Road, Hingham, MA 02043 for more information on their publications and services.

In their efforts to improve the schooling of American children, educators and the communities they serve are striving to develop schools that will teach our youngsters to be more productive and competitive workers in business and industry. From their understanding of the test scores of American children, the reformers infer that our schools must teach more mathematics, more science, more language skills. Prescribed remedies for the problems range from "back to basics," to a more rigorous curriculum, to alternative private school systems, to parental "choice" of schools. In almost every case, budgetary constraints become the "enemy" as greater demands are placed on the schools and they appear to be, like Alice, "running faster just to stay in the same place."

To make time for expanded math, science and language studies, the reformers reduce or eliminate time for the arts – music, visual arts, theater, dance, and creative writing.

But the research of cognitive psychologists – and the experience of schools that teach the arts as a part of the basic curriculum – strongly suggest that this prescription will not produce the results the reformers seek. In fact, research into the records of students in several schools indicates that *a curriculum that devotes 25% or more of the school day to the arts produces youngsters with academically superior abilities*. There is compelling evidence to suggest that schools should *increase* the time devoted to teaching the arts. The supposedly "nonessential" subjects of music, theater, dance, and art promote the kinds of thinking, enthusiasm, self-esteem and discipline that are necessary requisites for learning.

Many people do not associate the arts with "thinking." We are aware of the art "product" – the song, the picture, the play – but we are less aware of the *process* which creates that product. Yet the arts are not so much a result of inspiration and innate talent as they are a person's capacities for creative thinking and imagining, problem-solving, critical judgment, and a host of other mental processes. The arts represent forms of cognition every bit as potent as the verbal and logical/mathematical forms of cognition that have been the traditional focus of public education.

Still, some educators and educational psychologists remain skeptical about the practical benefits of arts study. They see no relationship between learning in the arts and learning in other subjects. The argument runs this way: "If you want to improve science education, improve science, not the visual arts. Math is improved through math education and not through music." Because interplay between the arts and the rest of the curriculum is not obvious, the arts are often confined to the periphery of the school day. When budgets are tight, the arts tend to be the first subjects curtailed – though this attitude may be changing.

Vertical And Horizontal

There are very good reasons to teach the arts both vertically *and* horizontally within the traditional core curriculum [see sidebar]. An examination of what the study of an art form requires when taught *vertically* – that is, as a stand-alone subject – points to very practical benefits that may accrue. The arts:

- activate mental energy by awakening and educating the imagination, the seat of our thought

processes themselves;

- are a model of "learning by doing" and engaging students with the real world (the apprenticeship model of learning, with teacher as coach);
- develop aspiration to achieve, to get better, to excel;
- require hard work to perfect the techniques demanded by the specific art form;
- require discipline, and the continuing need to practice to hone technique;
- require long-term commitment; and
- require cooperation and collective accountability in a group performance – music, theater, and dance.

Others have observed that the arts develop higher order (critical and creative) thinking skills, including (1) the ability to *deal with complexity and ambiguity*; (2) the capacity for *sound judgment*; (3) attention to *purpose* (exploring alternative goals) as much as results; and (4) the ability to *consider differing viewpoints and defer judgment*.

Interestingly enough, these are precisely the skills the business community now so avidly seeks in its new employees. Not finding them, it is calling for a radical restructuring of the American educational system.

When the arts also taught *horizontally* – that is, used together with traditional academic approaches to articulate and understand a particular subject or theme – learning becomes more integrated. Students employ the style of learning that suits them best, and the arts become a support to the curriculum. Such "integrative learning" changes the *way* the classroom runs, as well as the content. It uses a problem-based structure, and is similar to a "studio" in this respect. Outstanding artistic work can occur, giving an important aesthetic content to the broad themes being studied. Teachers become excited about their new roles as facilitators, and a culture of high standards and high academic achievement within a school is the result. School becomes an exciting place to be.

In fact, the most important benefit of the arts may be *the education of the imagination*. Imagination is a powerful tool indeed; if we can imagine something, we can make it happen. Imagination is an invaluable resource for seeking – and finding – solutions to problems, as well as in defining and acting on opportunities.

The arts represent immediately available, well-known and low-cost ways to quickly achieve the educational goals now sought by business leaders and educators alike. We at The Center for Arts in the Basic Curriculum call for a restructuring of American education through the arts, and our purpose is to assist in bringing this about. We subscribe to the words of Graham Downe:

> Arts educators should become aggressive on a whole new school agenda. They should join forces with the current reform impulse that aspires to transform the whole structure of learning, the whole climate of learning, the whole relationship between the teacher and the student. They should promote the arts as the vanguard to meaningful restructuring of the schools.

The compelling message the arts bring to education is a difficult one to articulate, and school change may be difficult to achieve. But the business and professional people involved with The Center for Arts in the Basic Curriculum stand ready to offer assistance to arts educators – in bringing the arts to the forefront of educational change. ▲

SUPPORTING EVIDENCE

The schools listed here are not selective, and their students are considered "average." But they differ from other schools in having included the arts in their basic curricula.

Elm Elementary, Milwaukee, WI • In the bottom 10% in academic performance in 1979, Elm has been #1 out of 103 schools in its district for eight of the last ten years since introducing arts education.

Ashley River (K-6), Charleston, NC • Started in 1984, Ashley River is now ranked #2 in the county (second only to a high school for the academically gifted), and it has a waiting list of 1200 students.

St. Augustine (K-8), Bronx, NY • This 99% minority school was about to fail in 1984, but since introducing arts to the curriculum, 98% of the students have had reading and math scores at grade level (only three public schools in metropolitan New York can claim this).

Davidson (5-12), Augusta, GA • Fully integrated (50% white, 50% black) and ranked #1 in the county, Davidson has a waiting list of many hundreds.

FACE (K-11), Montreal, Canada • FACE students achieve higher scores in most academic subjects than five other local high schools combined. Test scores run an average of 20% higher than the scores of other Canadian students, even though the school is not selective.

Eliot Elementary, Needham, MA • Since integrating art into curriculum in 1983, the test scores for "average" 3rd-grade students in this racially mixed school have risen to the 97th to 99th percentile.

ANZA, Los Angeles, CA • Reading scores doubled one year after the introduction of a visual arts program.

EARTHWISE LEARNING

The ICA's new multi-disciplinary educational program can provide maps for journeying to our planetary future

by John Burbidge

The Institute of Cultural Affairs (ICA), a private, non-profit organization "concerned with the human factor in community and organization development," is one of the most consistently innovative organizations on the planet. The central concern of its diverse programs in over 20 countries is "to maximize the participation of people in taking responsibility for their own lives and for society as a whole" – and its new Earthwise Learning Series is a very potent contribution to that endeavor. Australian-born John Burbidge is Publications Coordinator for ICA West at its Seattle office, 1504 25th Ave., Seattle, WA 98122.

If you are interested in participating in the creation, funding, or distribution of the Earthwise Learning Series described here, please contact James Wiegel, ELS Coordinator, ICA West, 4220 North 25th Street, Phoenix, Arizona 85016 USA, Tel. 602/955-4811.

The world of the 1990s promises to be quite unlike anything we've ever known. The crumbling of old political forms, the delicate state of the environment, increasingly sophisticated technology and communications – these are but a few of the features of our evolving planet. The "global village" has indeed arrived, not as some grandiose idea at the frontier of history, but as the very stuff of our daily lives.

The challenge we face is learning to live as planetary citizens in the midst of everyday life. Most of us can hardly claim to have those skills, and if so, only within our own field of personal and professional expertise. At best we operate with the know-how of earlier periods of history, albeit updated and refined. It's as though we were still driving a Model-T Ford in the age of the computerized automobile.

But the last few decades have surrounded us with an *amazing* array of breakthroughs in almost every field of human endeavor – brain research, learning processes, wellness, communications, biotechnology, organizational change, international relations... the list is endless. Few of these breakthroughs, however, have trickled down to the point where most of us can understand them and integrate them into our daily routines.

All too often, we experience ourselves and our institutions as ineffective and irrelevant. Too easily, we feel defeated and angry in our attempts to manage our lives. At the same time we long, as Joseph Campbell put it, "to actually feel the rapture of being alive."

At this point, many people turn to educational institutions – both to place the blame and to seek solutions. But like many traditional social forms, education today is in disarray. The waves of information, social innovation, and the multicultural experience of the last forty years have swamped our learning institutions. With isolated exceptions, these institutions have been no more successful than we ourselves in digesting and using what we have discovered about how people learn.

The Earthwise Learning Series (ELS), a project of the Institute of Cultural Affairs, is an innovative response to this dilemma. Unlike many other educational ventures, the ELS is not designed to deliver more information. Rather it is designed to distill, from the reservoirs of available information, images and ideas which illuminate changes in our understanding of ourselves and our world. It focuses on *patterns and processes*, not data. In fact, the raw stuff of the curriculum is the participants' life experiences.

The ELS builds on decades of ICA work, including the former Global Academy offered by ICA in the 1960s and 70s. This intensive training program focused on methods of intellectual, social and spiritual development for global citizens. Also, during the late 1980s, ICA branches in Chicago, Brussels and Guatemala sponsored programs dealing with breakthroughs in learning and human development. And ICA branches around the world have done extensive work in areas like organizational transformation, human capacities, the emerging planetary culture, voluntary simplicity, spirituality, partnership,

consciousness, practical experimentation with community living, entrepreneurial style, corporate culture and cultural archetypes.

Curriculum design began in October, 1988, when a group of fifteen experienced educators met in Phoenix. This thinktank drew upon previous ICA educational eperiments, which have won recognition for their ability to take specialized areas of knowledge and present key insights from them in ways that make practical sense to people. The end product of the thinktank was threefold – a comprehensive curriculum framework, an outline of three intensive courses, and initial designs for test modules to introduce the program. [The figure on this page illustrates part of the curriculum framework.]

The initial design group considered what capabilities were needed for planetary living in the 21st century. Three pivotal questions emerged:

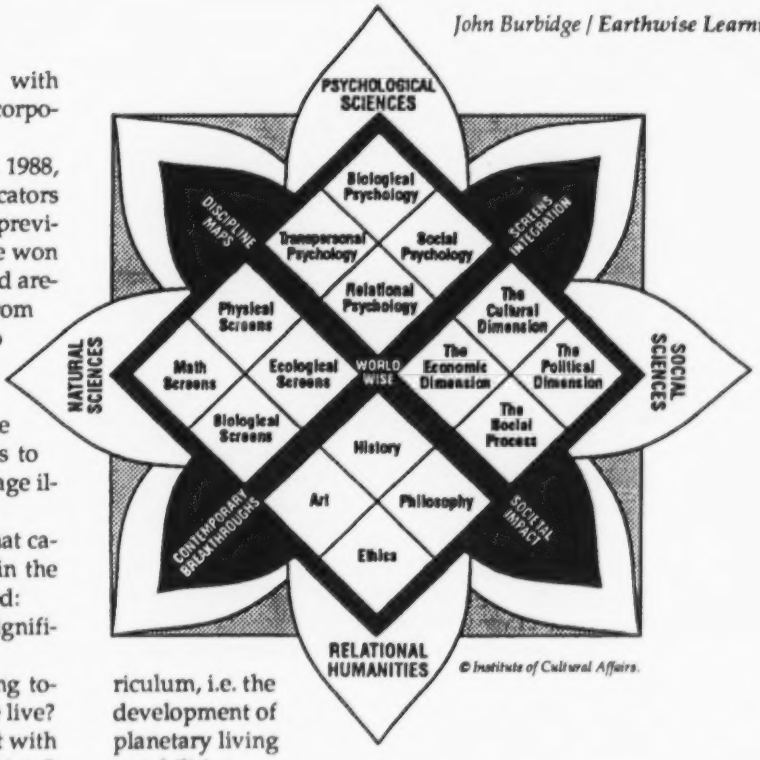
- How does a person experience the significance of human living?
- What are the breakthroughs in learning today that are changing the world in which we live?
- What are the skills one needs to interact with others and make a creative contribution to society?

These questions laid the groundwork for the three intensive courses, each of which was planned as a full-time, month-long program with a central theme. The first course emphasizes breakthroughs in the natural sciences which are altering the way people think and act. The second focuses on the diversity of cultural archetypes and metaphors that make up the global mosaic. And the third highlights analytical and creative methods that enable people to function effectively in today's world.

To launch the ELS, three introductory modules were created: *Making Sense of the World, Myth and the Human Journey*, and *Methods of Individual and Group Creativity*. These modules use individual and group processes and a variety of multimodal teaching techniques, and demonstrate both rational and intuitive approaches to learning.

A fourth module has since been added – *A New Image of Learning*. The work done on learning processes in recent years has provided the pieces of an entirely new paradigm. Presently, this paradigm is about where the computer industry was thirty years ago – big, bulky, hard to use technologies surrounded by a host of small, unconnected inventions and concepts. The piecing together of this paradigm in the next decade will produce the equivalent for learning of the personal computer.

This fourth module on the new learning paradigm is pivotal to the development of the entire ELS curriculum. It will help ensure that the *methods* used are appropriate to the *message* of the curriculum, i.e. the development of planetary living capabilities.



The ultimate intent is to create a *co-learning community* in which all involved are partners in exploration. Staff leading the program will act as a support network to the participants. And since the total environment in which the program takes place is part of the learning experience, the curriculum will include both formal sessions and more leisurely pursuits – in other words, a music lounge might be as critical as a seminar room.

Who is the ELS intended for? It was first thought that the ELS would be piloted by business executives in university courses. Many corporations invest heavily in education to help their employees better understand themselves and the world in which their enterprise operates, and the cross-cultural, multidisciplinary framework of the ELS directly addresses this concern.

Since then, however, a diversity of target groups has emerged, ranging from Masters' students in global management to at-risk youth involved in leadership training. One suggestion has been for the creation of a mobile ELS serving the needs of advanced education in "Third World" countries. The intention is to develop a new style of leader or social healer – one tuned to the deep transitions taking place in the world's cultures, able to respond creatively to those challenges and capable of inspiring and teaching others. And as ELS coordinator Jim Wiegel has pointed out, "The key learners ... are you and I, not the 'coming generation.' This learning is for living right now." ▲

Learning Through Service

By caring for others, students learn how to care for themselves – and their world

by Kate McPherson

By the time they reach college, many students have learned to refer to the larger society beyond the walls of academe as the "real world." The separation this reflects is perhaps one of the most ironic, and tragic, aspects of traditional educational models – we isolate learners from the very culture we profess to be preparing them for. Yet for many students, a deep encounter with those in need may be the most educational thing that ever happens to them.

Kate McPherson is Director of Project Service Leadership, which assists schools and communities in implementing service learning programs. Her project is one of four regional centers funded by the Kellogg Foundation to provide such assistance throughout the country. Contact Kate at 2810 Comanche Dr., Mt. Vernon, WA 98273, 206/428-7614, or the National Youth Leadership Council at 1-800-366-6952, for more information.

Youth Service America, a national clearinghouse for community service programs, estimates that high school volunteers donate 17 million hours of unpaid service annually at an estimated dollar value of almost $60 million. Such programs not only meet important local community needs, but teach students about responsible citizenship by giving their studies real-life applications and helping to create a positive transition into adulthood.

Service engages students in real-life problem-solving and in exercising their own initiative.

Service learning provides a hands-on, collaborative approach to learning. It also engages students in real problem-solving and in exercising their own initiative – opportunities that are rare in most school curricula. Here are some examples from Washington State:

- Students in Gig Harbor tutor new immigrants who speak the foreign language that the students are studying. With Spanish, for example, students develop a more thorough understanding of the language and a greater appreciation for Hispanic culture. Developing a lesson plan gives them practice in finding effective ways to explain an idea. And by conversing about the tutorial subject in Spanish, students develop a more integrated understanding of the subject's content.
- Social studies students at Lakeside School and Kennedy High School in Seattle are spending time with homeless families providing meals, gathering supplies, and working in shelters. For these students, homelessness is no longer just a word, but a complex political and economic issue with real names and faces, sounds and sights.
- Industrial arts students at Foss High School in Tacoma apply their skills in design and problem-solving by working on projects such as a chair designed and built for an eighteen-month old child with multiple sclerosis. This project involved determining which materials would provide the needed stability and mobility, and developing an expandable design to grow with the child.

A Profound Effect

The value of student service to the community is important, but just as important is the effect of service on the students themselves. This is perhaps best reflected in excerpts from their own writing about their experiences. From a student who worked at a homeless shelter:

For me, this experience was eye-opening, stereotype-breaking, and attitude-changing. I really grew attached to some of the kids at the shelter, and found myself wanting to return to see them again. I am a person who was initially opposed to the whole service learning thing.... but I have changed my attitude al-

most completely (which is not something I do very often). You can be told about poverty until you think you have heard all there is to know about it. Until you witness poverty and homelessness first hand, however, it will not have an impact. It does not take much exposure to a human need to get personally involved and begin to care about a situation. I am convinced that just a little time required in community service will yield a lifetime of dedication to help.

From a student who worked in a teen runaway shelter:

The way in which I was personally benefited the most was by what I realized by the end of that Saturday night. I was feeling good about myself and was, in fact, on a small ego trip. After all, just look at what I had done – I must have spent thirteen hours collecting clothes and five hours slaving over an oven baking (and eating) peanut butter cookies. I essentially gave up my whole Saturday to feed the hungry. But after watching these teenagers, who had so little material wealth compared to myself and who could be satisfied with what I considered garbage, I began to see the truth. A very uncomfortable notion crept into my mind – the idea that these kids were, if anything, superior to myself. Not in what they had, but in who they were.

More and more districts across the country are infusing service into their K-12 curriculum, seeing it as central to their educational mission and as a powerful tool for creating partnership between communities and schools. Service fosters an ethic of caring and community within the school. As service becomes an expected component of classroom goals and a part of teacher-student discussions, schools develop into more compassionate environments where students care for others – and are themselves cared for. ▲

Adults And Learning

"I have surpassed what I thought were my limits so many times that I now know I have no limits."

- 38-year-old graduate student

Until recently, psychologists believed that we peaked in intellectual and psychological development at 20 or 21, remained stable until late middle age, then declined. Only now is new research confirming what most of us knew intuitively: that given proper conditions, adults can continue to grow throughout their lifespans.

Because there had been little research on how and why adults develop cognitively and on the developmental effects of different types of adult learning programs, I conducted a four-year study of these questions. 60 adult graduate students participated, half enrolled in traditional authoritarian learning programs, half in a nontraditional, self-directed, mentor-oriented program.

The research findings were startling. Two psychological tests, a questionnaire, and interviews all revealed congruent results – as though the research snapped multiple, identical pictures of a barely visible phenomenon. Adults in the traditional authoritarian programs actually *regressed* developmentally, while those in the self-directed learning program grew significantly.

Those in the traditional program reported a *loss* of self-esteem and frustration. Those in the self-directed program reported experiencing profound learning and personal development.

We learn best when the subject is personally meaningful, when we have input into *what* and *how* we learn, and when we have some measure of control over our life as a learner. In traditional graduate schools where teachers lectured and assigned specific reading material and specific topics for papers, adult students reported experiencing more *frustration* than learning. Individual needs cannot be accommodated in authoritarian, lockstep classes.

My research also showed that support, mutual trust, and respect were important factors in adult learning. Rigid, nonconstructive criticism devastates even an older student's self-esteem, whereas thoughtful, constructive suggestions prod students toward higher levels of thinking.

To learn new ways of thinking requires giving up old ways, resulting in temporary disequilibrium and pain. Adults, like children, need a sense of safety to explore new ideas, new ways of thinking. Like a toddler learning to walk, we must feel free to occasionally fall as we learn. The discomfort and failures – when experienced in a safe environment – are catalysts for further development.

Why is it important for adults to learn throughout their lifespan? With our rapidly changing technology, most adult skills and knowledge quickly become obsolete without continual learning. A burgeoning problem for U.S. businesses is the dearth of employees who can cope with rapid change, complex problems, and uncertainty.

We need adults at the more advanced developmental stages who can apply higher-order thinking to problem-solving, decision-making, and long-range planning. The survival of the planet, in fact, is dependent on the decisions made not only by well-educated, but *wise* human beings who have had the opportunity to develop their fullest potential.

– Dorothy Billington

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What Is Education For?

Six myths about the foundations of modern education, and six new principles to replace them

by David Orr

We are accustomed to thinking of learning as good in and of itself. But as environmental educator David Orr reminds us, our education up till now has in some ways created a monster. This essay is adapted from his commencement address to the graduating class of 1990 at Arkansas College. It prompted many in our office to wonder why such speeches are made at the end, rather than the beginning, of the collegiate experience.

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If today is a typical day on planet Earth, we will lose 116 square miles of rainforest, or about an acre a second. We will lose another 72 square miles to encroaching deserts, as a result of human mismanagement and overpopulation. We will lose 40 to 100 species, and no one knows whether the number is 40 or 100. Today the human population will increase by 250,000. And today we will add 2,700 tons of chlorofluorocarbons to the atmosphere and 15 million tons of carbon. Tonight the Earth will be a little hotter, its waters more acidic, and the fabric of life more threadbare.

The truth is that many things on which your future health and prosperity depend are in dire jeopardy: climate stability, the resilience and productivity of natural systems, the beauty of the natural world, and biological diversity.

It is worth noting that this is not the work of ignorant people. It is, rather, largely the result of work by people with BAs, BSs, LLBs, MBAs, and PhDs. Elie Wiesel made a similar point to the Global Forum in Moscow last winter when he said that the designers and perpetrators of the Holocaust were the heirs of Kant and Goethe. In most respects the Germans were the best educated people on Earth, but their education did not serve as an adequate barrier to barbarity. What was wrong with their education? In Wiesel's words: "It emphasized theories instead of values, concepts rather than human beings, abstraction rather than consciousness, answers instead of questions, ideology and efficiency rather than conscience."

The same could be said of the way our education has prepared us to think about the natural world. It is a matter of no small consequence that the only people who have lived sustainably on the planet for any length of time could not read, or, like the Amish, do not make a fetish of reading. My point is simply that education is no guarantee of decency, prudence, or wisdom. More of the same kind of education will only compound our problems. This is not an argument for ignorance, but rather a statement that the worth of education must now be measured against the standards of decency and human survival – the issues now looming so large before us in the decade of the 1990s and beyond. It is not education that will save us, but education of a certain kind.

Sane Means, Mad Ends

What went wrong with contemporary culture and with education? There is some insight in literature: Christopher Marlowe's Faust, who trades his soul for knowledge and power; Mary Shelley's Dr. Frankenstein, who refuses to take responsibility for his creation; Herman Melville's Captain Ahab, who says "All my means are sane, my motive and object mad." In these characters we encounter the essence of the modern drive to dominate nature.

Historically, Francis Bacon's proposed union between knowledge and power foreshadows the contemporary alliance between government, business, and knowledge that has wrought so much mischief. Galileo's separation of the intellect foreshadows the dominance of the analytical mind over that part given to creativity, humor, and wholeness. And in Descartes' epistemology, one finds the roots of the radical separation of self

and object. Together these three laid the foundations for modern education, foundations now enshrined in myths we have come to accept without question. Let me suggest six.

First, there is the myth that *ignorance is a solvable problem*. Ignorance is *not* a solvable problem, but rather an inescapable part of the human condition. The advance of knowledge always carries with it the advance of some form of ignorance. In 1930, after Thomas Midgely Jr. discovered CFCs, what had previously been a piece of trivial ignorance became a critical, life-threatening gap in the human understanding of the biosphere. No one thought to ask "what does this substance do to what?" until the early 1970s, and by 1990 CFCs had created a general thinning of the ozone layer worldwide. With the discovery of CFCs knowledge increased; but like the circumference of an expanding circle, ignorance grew as well.

A second myth is that *with enough knowledge and technology we can manage planet Earth*. "Managing the planet" has a nice a ring to it. It appeals to our fascination with digital readouts, computers, buttons and dials. But the complexity of Earth and its life systems can never be safely managed. The ecology of the top inch of topsoil is still largely unknown, as is its relationship to the larger systems of the biosphere.

What might be managed is *us*: human desires, economies, politics, and communities. But our attention is caught by those things that avoid the hard choices implied by politics, morality, ethics, and common sense. It makes far better sense to reshape ourselves to fit a finite planet than to attempt to reshape the planet to fit our infinite wants.

A third myth is that *knowledge is increasing and by implication human goodness*. There is an information explosion going on, by which I mean a rapid increase of data, words, and paper. But this explosion should not be taken for an increase in knowledge and wisdom, which cannot so easily by measured. What can be said truthfully is that some knowledge is increasing while other kinds of knowledge are being lost. David Ehrenfeld has pointed out that biology departments no longer hire faculty in such areas as systematics, taxonomy, or ornithology. In other words, important knowledge is being lost because of the recent overemphasis on molecular biology and genetic engineering, which are more lucrative, but not more important, areas of inquiry. We still lack the the science of land health that Aldo Leopold called for half a century ago.

It is not just knowledge in certain areas that we're losing, but vernacular knowledge as well, by which I mean the knowledge that people have of their places. In the words of Barry Lopez:

"[I am] forced to the realization that something strange, if not dangerous, is afoot. Year by year the number of people with firsthand experience in the land dwindles. Rural populations continue to shift to the cities.... In the wake of this loss of personal and local knowledge, the knowledge from which a real geography is derived, the knowledge on which a country must ultimately stand, has come something hard to define but I think sinister and unsettling."

When Thomas Midgely Jr. discovered CFCs, what had been a piece of trivial ignorance became a life-threatening gap in human understanding.

In the confusion of data with knowledge is a deeper mistake that learning will make us better people. But learning, as Loren Eiseley once said, is endless and "In itself it will never make us ethical [people]." Ultimately, it may be the knowledge of the good that is most threatened by all of our other advances. All things considered, it is possible that we are becoming more ignorant of the things we must know to live well and sustainably on the Earth.

A fourth myth of higher education is that *we can adequately restore that which we have dismantled*. In the modern curriculum we have fragmented the world into bits and pieces called disciplines and subdisciplines. As a result, after 12 or 16 or 20 years of education, most students graduate without any broad integrated sense of the unity of things. The consequences for their personhood and for the planet are large. For example, we routinely produce economists who lack the most rudimentary knowledge of ecology. This explains why our national accounting systems do not subtract the costs of biotic impoverishment, soil erosion, poisons in the air or water, and resource depletion from gross national product. We add the price of the sale of a bushel of wheat to GNP while forgetting to subtract the three bushels of topsoil lost in its production. As a result of incomplete education, we've fooled ourselves into thinking that we are much richer than we are.

Fifth, there is a myth that *the purpose of education is that of giving you the means for upward mobility and success*. Thomas Merton once identified this as the "mass production of people literally unfit for anything except to take part in an elaborate and completely artificial charade." When

asked to write about his own success, Merton responded by saying that "if it so happened that I had once written a best seller, this was a pure accident, due to inattention and naiveté, and I would take very good care never to do the same again." His advice to students was to "be anything you like, be madmen, drunks, and bastards of every shape and form, but at all costs avoid one thing: success."

The plain fact is that the planet does not need more "successful" people. But it does desperately need more peacemakers, healers, restorers, storytellers, and lovers of every shape and form. It needs people who live well in their places. It needs people of moral courage willing to join the fight to make the world habitable and humane. And these needs have little to do with success as our culture has defined it.

The plain fact is that the planet does not need more successful people. But it does need more peacemakers, healers, restorers, storytellers, and lovers.

Finally, there is a myth that *our culture represents the pinnacle of human achievement*: we alone are modern, technological, and developed. This, of course, represents cultural arrogance of the worst sort, and a gross misreading of history and anthropology. Recently this view has taken the form that we won the cold war and that the triumph of capitalism over communism is complete. Communism failed because it produced too little at too high a cost. But capitalism has also failed because it produces too much, shares too little, also at too high a cost to our children and grandchildren. Communism failed as an ascetic morality. Capitalism failed because it destroys morality altogether. This is not the happy world that any number of feckless advertisers and politicians describe. We have built a world of sybaritic wealth for a few and Calcuttan poverty for a growing underclass. At its worst it is a world of crack on the streets, insensate violence, anomie, and the most desperate kind of poverty. The fact is that we live in a disintegrating culture. In the words of Ron Miller, editor of *Holistic Review*:

"Our culture does not nourish that which is best or noblest in the human spirit. It does not cultivate vision, imagination, or aesthetic or spiritual sensitivity. It does not encourage gentleness, generosity, caring, or compassion. Increasingly in the late 20th Century, the economic-technocratic-statist worldview has become a monstrous destroyer of what is loving and life-affirming in the human soul."

What Education Must Be For

Measured against the agenda of human survival, how might we rethink education? Let me suggest six principles.

First, *all education is environmental education.* By what is included or excluded we teach students that they are part of or apart from the natural world. To teach economics, for example, without reference to the laws of thermodynamics or those of ecology is to teach a fundamentally important ecological lesson: that physics and ecology have nothing to do with the economy. That just happens to be dead wrong. The same is true throughout all of the curriculum.

A second principle comes from the Greek concept of *paideia. The goal of education is not mastery of subject matter, but of one's person.* Subject matter is simply the tool. Much as one would use a hammer and chisel to carve a block of marble, one uses ideas and knowledge to forge one's own personhood. For the most part we labor under a confusion of ends and means, thinking that the goal of education is to stuff all kinds of facts, techniques, methods, and information into the the student's mind, regardless of how and with what effect it will be used. The Greeks knew better.

Third, I would like to propose that *knowledge carries with it the responsibility to see that it is well used in the world.* The results of a great deal of contemporary research bear resemblance to those foreshadowed by Mary Shelley: monsters of technology and its byproducts for which no one takes responsibility or is even expected to take responsibility. Whose responsibility is Love Canal? Chernobyl? Ozone depletion? The Valdez oil spill? Each of these tragedies were possible because of knowledge created for which no one was ultimately responsible. This may finally come to be seen for what I think it is: a problem of scale. Knowledge of how to do vast and risky things has far outrun our ability to use it responsibly. Some of it cannot be used responsibly, which is to say safely and to consistently good purposes.

Fourth, *we cannot say that we know something until we understand the effects of this knowledge on real people and their communities.* I grew up near Youngstown, Ohio, which was largely destroyed by corporate decisions to "disinvest" in the economy of the region. In this case MBAs, educated in the tools of leveraged buyouts, tax breaks, and capital mobility have done what no invading army could do: they destroyed an American city with total impunity on behalf of something called the "bottom line." But the bottom line for society

includes other costs, those of unemployment, crime, higher divorce rates, alcoholism, child abuse, lost savings, and wrecked lives. In this instance what was taught in the business schools and economics departments did not include the value of good communities or the human costs of a narrow destructive economic rationality that valued efficiency and economic abstractions above people and community.

My fifth principle follows and is drawn from William Blake. It has to do with *the importance of "minute particulars" and the power of examples over words*. Students hear about global responsibility while being educated in institutions that often invest their financial weight in the most irresponsible things. The lessons being taught are those of hypocrisy and ultimately despair. Students learn, without anyone ever saying it, that they are helpless to overcome the frightening gap between ideals and reality. What is desperately needed are faculty and administrators who provide role models of integrity, care, thoughtfulness, *and* institutions that are capable of embodying ideals wholly and completely in all of their operations.

Finally, I would like to propose that *the way learning occurs is as important as the content of particular courses*. Process is important for learning. Courses taught as lecture courses tend to induce passivity. Indoor classes create the illusion that learning only occurs inside four walls isolated from what students call without apparent irony the "real world." Dissecting frogs in biology classes teaches lessons about nature that no one would verbally profess. Campus architecture is crystallized pedagogy that often reinforces passivity, monologue, domination, and artificiality. My point is simply that students are being taught in various and subtle ways beyond the content of courses.

An Assignment For The Campus

If education is to be measured against the standard of sustainability, what can be done? I would like to make four propsals. First, I would like to propose that you engage in a campus-wide dialogue about the way you conduct your business as educators. Does four years here make your graduates better planetary citizens or does it make them, in Wendell Berry's words, "itinerant professional vandals"? Does this college contribute to the development of a sustainable regional economy or, in the name of efficiency, to the processes of destruction?

My second suggestion is to examine resource flows on this campus: food, energy, water, materials, and waste. Faculty and students should together study the wells, mines, farms, feedlots, and forests that supply the campus as well as the dumps where you send your waste. Collectively, begin a process of finding ways to shift the buying power of this institution to support better alternatives that do less environmental damage, lower carbon dioxide emissions, reduce use of toxic substances, promote energy efficiency and the use of solar energy, help to build a sustainable regional economy, cut long-term costs, and provide an example to other institutions. The results of these studies should be woven into the curriculum as interdisplinary courses, seminars, lectures, and research. No student should graduate without understanding how to analyze resource flows and without the opportunity to participate in the creation of real solutions to real problems.

Faculty and students should together study the wells, mines, farms, feedlots, and forests that supply the campus, as well as the dumps where you send your waste.

Third, reexamaine how your endowment works. Is it invested according to the Valdez principles? Is it invested in companies doing responsible things that the world needs? Can some part of it be invested locally to help leverage energy efficiency and the evolution of a sustainable economy throughout the region?

Finally, I propose that you set a goal of ecological literacy for all of your students. No student should graduate from this or any other educational institution without a basic comprehension of:

- the laws of thermodynamics
- the basic principles of ecology
- carrying capacity
- energetics
- least-cost, end-use analysis
- how to live well in a place
- limits of technology
- appropriate scale
- sustainable agriculture and forestry
- steady-state economics
- environmental ethics

Do graduates of this college, in Aldo Leopold's words, know that "they are only cogs in an ecological mechanism such that, if they will work with that mechanism, their mental wealth and material wealth can expand indefinitely (and) if they refuse to work with it, it will ultimately grind them to dust." Leopold asked: "If education does not teach us these things, then what is education for?" ▲

How To Start A Revolution At Your School

If our schools continue to educate in the ways of the past, we will forfeit the future of our children

by Linda MacRae-Campbell

So you know your school has problems, and you think you know how to fix them. What do you do? Guest editor Linda MacRae-Campbell, Director of New Horizons for Learning (NHFL), the author of six books on global education, and a school-restructuring consultant, offers this primer on how to be a constructive – and successful – revolutionary. Linda also coordinates a new teacher certification program at Antioch University in Seattle that incorporates holistic teaching methods and effective change agentry. And take note: many of the insights gathered here can be applied in virtually any organizational setting, not just schools. Contact Linda at NHFL, 4649 Sunnyside Ave. N., Seattle, WA 98103, Tel. 206/547-7936; or Antioch University, 2607 2nd Ave., Seattle, WA 98121.

Sometimes it is necessary to start a revolution. For children to become effective participants in an information society and an increasingly interdependent world, schools must assume new roles and approaches. Unfortunately, education has managed to stand still in the midst of fundamental changes in politics, technology, the environment, social demographics, economics, and breakthroughs in cognitive research and other fields. Clinging to an outdated industrial age model, our schools remain much as they were 150 years ago.

While we educate children in the ways of the past, we forfeit preparing them for their futures.

Many schools across the country have accepted the challenge of updating and upgrading their services. They have transformed their educational missions and goals, organizational structures, academic programs, instructional methods, the roles of administrators, teachers, staff, students, parents and community members and have established new relationships with local and global communities. However, most schools – doing the business of schooling as they always have – shun innovation and avoid serious dialogue about how to become effective learning communities.

The national outcry for improving our schools is echoed by politicians, the corporate sector, parents, the media, and innovative educators. Unfortunately, crying out won't get the job done. Courageous individuals, working both within and outside of the schools, will midwife the transformation of our educational system by changing each school, one at a time. These individuals will instill a revolution of rising expectations as schools perceive new roles and methods appropriate for the emergent global learning society of the 21st century.

Individuals who are willing to serve as instigators of change will encounter formidable resistance as they work in the trenches. Their efforts must be well strategized and coordinated. Such "change agents" should be well informed, basing their game plans upon recent knowledge of educational change projects. Armed with the "how to" of restructuring, school transformers can skillfully "challenge the regularities of school life" (Sizer, 1989). Such information is not readily available; but once secured, it is a powerful force in toppling the entrenched traditions dominating the nation's educational institutions. For those ready to take on the challenge, some guidelines follow.

How To Do What Must Be Done

Step One: Identify a need for reform within the school. Whether working for change from

within or outside of the school, it is important to target a high-profile need or concern. For example, significant restructuring projects can be initiated by first addressing serious concerns such as drop-out rates, lack of parental involvement, excessive curricular add-ons, or other problem areas.

A starting point for many schools is writing a new mission statement that specifies the school's philosophy, goals and values. Once this new mission is clearly articulated, school programs, curricula, teaching methods and, most importantly, staffing, all should reflect the school's stated purpose in operation. If not, adjustments will have to be made to achieve internal integrity.

One of the primary responsibilities of a school's change agent is to initiate honest dialogue at the school. This is no easy feat, since many teachers and administrators will be outright resistant or afraid to speak truthfully, or they will opt to maintain a "collegial" atmosphere. Change agents will necessarily have to engage individuals, small groups and full faculty meetings in repeated conversations about restructuring.

Step Two: Seek supporters for change. Strong advocates for the change project – from both within and outside of the school – should be identified and their support actively sought. It is unrealistic to expect any change effort to be undertaken with full consensus. It is also highly unlikely that a majority of those involved will embrace innovation.

However, consensus and majority favor are not necessary to initiate change. The number of people who must be convinced of a new concept or approach is approximately *15 to 20% of a school's population*. This percentage is significant enough for a shift to take place (Stern, 1985). Of course, some change projects have begun with as few as two supporters; but in such cases, the restructuring project usually takes longer to implement.

Another source of support for educational innovation can be found in the knowledge base of the cognitive sciences. In the last twenty to thirty years, there has been an explosion of information about how to optimize learning throughout the lifespan. Frequently, providing rationales for change efforts based upon solid research helps to diffuse many naysayers.

Step 3: Create and communicate an action plan for the change effort. To reduce the rampant skepticism abundant among most school staffs, the restructuring project should be well organized and coordinated. A written and/or visual model of the change effort should be developed and communicated, including timelines, activities, and task force members and responsibilities. It is important to devise ways to measure the results of the innovation, as well as how to provide appropriate recognition for those involved. It's often wise to begin with small projects that gain visibility and success within the first three to four months. For major restructuring efforts, plan a minimum of three to five years before the project will be fully implemented.

Providing rationales for change efforts based upon solid research helps to diffuse many naysayers.

Step 4: Secure the needed resources. Identify and secure human resources as well as material needs. These might include consultants, training programs, financial resources, or curriculum materials.

Usually, the most important resource is additional time for staff involved in restructuring. Many schools have altered their daily schedules to provide additional meeting time for staff members. Some sites begin school five minutes earlier each day to "buy" two half days of release time each month. Teachers' schedules can be coordinated to enable the same planning time, additional salary for teacher work days beyond the school calendar can be generated, and substitutes can be hired. Offering teachers college credit for their efforts can also be helpful. To secure additional time, enlist the support of any or all of the following: the local teachers' association, central administration, parent groups, community members, building principals and anyone who can devise creative approaches to time management.

Step 5: Acknowledge the emotional reaction to change. The school change agent should anticipate his or her own personal reactions to change, as well as the responses of others. An emotional cycle in the change process has been identified (Kelly & Connor, 1979) and includes five stages: (1) ***Uninformed optimism*** is the honeymoon phase of the project and provides the energy and enthusiasm to begin the restructuring effort. (2) ***Informed pessimism*** ensues when unexpected problems are encountered, the resistance of others rears up, and morale drops. This is a dangerous stage of the emotional cycle, and many change efforts are abandoned during this phase. For those projects that continue, the three remaining stages include (3) ***hopeful realism***, when it is evident that some efforts will succeed in spite of the obstacles; (4) ***informed optimism***, which emerges when confidence is restored as things

move ahead; and finally, (5) ***rewarding completion***, which is experienced by those involved in the change effort as they see concrete results of their work.

Another emotional phenomenon encountered in restructuring is the "Implementation Dip" (Fullan, 1982). When people agree to implement a new procedure or policy, a decline in their performance or work quality is experienced during their initial attempts. This can be humiliating and frustrating, and feelings of awkwardness and guilt often emerge. However, it is important to note that the decline in skills is only temporary. Once the dip has been reached, performance usually reorganizes at a higher level than before.

Any individual attempting to initiate change within a school must also realize that others will openly, verbally resist the change. Occasionally, the resistance takes the form of professional or personal attacks. Emotional fortitude, a sense of humor, and a personal support system are usually necessary to sustain the commitment of any change agent. Since the emotional rollercoaster ride of educational innovation appears inevitable, being forewarned of the ups and downs can – intellectually, at least – make the ride more bearable.

Step 6: Anticipate restructuring problems and identify problem-solving skills. Taking a proactive approach to many common restructuring problems serves to streamline and accelerate change efforts at a school. Common problems include, in order of importance: attitude and emotional issues; program process factors such as lack of coordination, planning or communication; and a lack of resources. Other predictable problems are unanticipated crises, competing demands, physical setting and low control (Miles et al., 1988). Change facilitators may want to plan how to handle such problems before they arise.

Active problem-solving methods are extremely important if a project is to be successful. Passive avoidance, procrastination, doing things the usual way, and shuffling people from task to task are weak strategies (Miles et al., 1988). Effective problem-solving strategies include vision-building and sharing, monitoring progress and revising plans accordingly, securing outside assistance, re-staffing if necessary, team-building, increasing resource control, and redesigning the school organization (Miles et al., 1988).

Since every attempt at revolution will undoubtedly be fraught with problems, it is crucial to use myriad coping skills. Sensing what is appropriate for any situation is an important intuitive skill to develop. At times, postponement and procrastination may, in fact, be the best approach. However, empowering school staff, establishing new roles and groups, monitoring and adjusting efforts often reduce restructuring problems.

Step 7: Share the leadership. For widespread change to become firmly implanted, it is necessary to share control of the project and work collaboratively with others. Securing both input and follow-through from diverse groups such as teachers, administrators, classified staff, students, parents, consultants, school board and community members will effectively broaden the support base. Sustained communication channels are necessary and can occur through weekly meetings, newsletters, bulletin items, phone trees, or other means.

Step 8: Anchor the innovation as quickly as possible to classroom practice. Change efforts that are quickly linked to the classroom are perceived as relevant and important. But a word of caution is in order here: as schools move towards shared decision-making policies, teachers are frequently inundated with trivial decision-making responsibilities. Ideally, issues that involve improving the learning of children and the teaching of teachers should be the primary focus of site-based management practices.

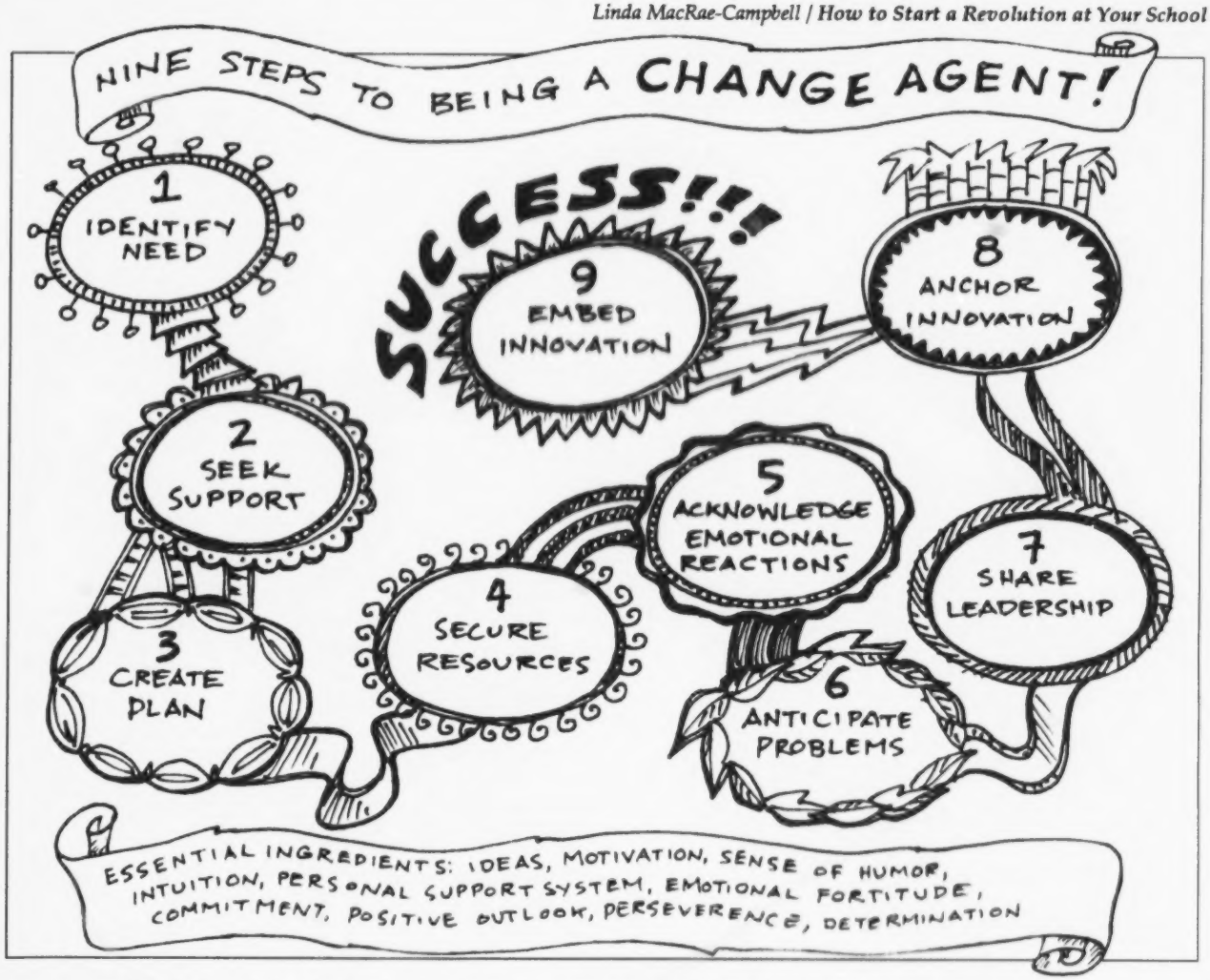
For new classroom practices to be implemented, a combination of support and pressure is required. Technical assistance should be provided. On-going staff development is necessary for schools to keep abreast of recent breakthroughs in learning, technology, and human development research. Rewards and recognition provide valuable encouragement for innovators at a school site.

Step 9: Embed the innovation into organizational practice. Once implemented, measured and refined, innovations then become part of organizational life. The restructuring effort becomes embedded in many aspects of school life including the philosophy, budget, policies and practices of the administration. Competing priorities are eliminated to better focus the change efforts, and increasing numbers of personnel will make use of the change at this stage.

Changing The World

Educational innovation is a process that can be understood, managed and valued as positive results are achieved. It is also a process that *must* become a regular feature of school life, enabling the continual initiation, implementation and institutionalization of change within each school.

Restructuring does not happen overnight and cannot be initiated by the faint of heart. The task may appear daunting, and the co-conspirators


NINE STEPS TO BEING A CHANGE AGENT!
1 IDENTIFY NEED
2 SEEK SUPPORT
3 CREATE PLAN
4 SECURE RESOURCES
5 ACKNOWLEDGE EMOTIONAL REACTIONS
6 ANTICIPATE PROBLEMS
7 SHARE LEADERSHIP
8 ANCHOR INNOVATION
9 EMBED INNOVATION
SUCCESS!!!
ESSENTIAL INGREDIENTS: IDEAS, MOTIVATION, SENSE OF HUMOR, INTUITION, PERSONAL SUPPORT SYSTEM, EMOTIONAL FORTITUDE, COMMITMENT, POSITIVE OUTLOOK, PERSEVERENCE, DETERMINATION

few in number. But we can take heart from Margaret Mead's reminder, "Never doubt that a small group of thoughtful, committed citizens can change the world. Indeed, it is the only thing that ever has."

We can also anticipate personal satisfaction from dedicating our efforts to the single most important field of human endeavor: education. Perhaps the self-acknowledged revolutionaries will look back on their attempts to awaken schools from their Rip Van Winkle sleep and glean the greatest rewards not from what was achieved, but rather from what they *became* by starting a revolution in their school. Learning, the gift that life bestows on those who accept challenges and reflect upon them, is guaranteed for all involved.

Our children are waiting for us to act. Their human capacities yearn to be fully developed, engaged and freed. The students of our nation's schools must be prepared to walk into their futures, not dwell in our pasts. It is futile to wait for others to change the structure and services of our educational institutions. The change must occur at each school one by one. The time is now for any one of us – a parent, teacher, community member, administrator, or student – to demand that our school improves and then see to it that it does. ▲

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Illustration by Kari Berger

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APPLYING OUR KNOWLEDGE

We now have the tools to create community learning centers appropriate to the needs of our time

by Dee Dickinson

In the 1988 joint issue of *IN CONTEXT* with New Horizons for Learning (*IC* #18), we concluded that it was urgent to recognize that human development is much more complex, richer, and more flexible than many current educational approaches acknowledge. That understanding is being applied to educational planning and practice in growing numbers of schools, where it is recognized that every student can learn. The results are remarkable in ghettos and upper middle class neighborhoods alike.

At Fidalgo Elementary the atmosphere is electric, and the eyes of students and teachers are bright with enthusiasm.

We also discussed a growing number of community learning centers and what they could offer to students of all ages. Let us offer one example to illustrate these trends, as well as most of the other trends we listed in 1988 – including integrative education, recognition of individual differences in learning styles, wise use of technology, restructuring the school day, collaborative/school-based planning, and rewarding success.

Two years ago, the Fidalgo Elementary School in Anacortes, WA, was chosen as one of Washington's "Schools for the 21st Century." This program, instigated by Governor Booth Gardner, supports innovation by giving selected schools a small stipend, extra planning time, and the option of requesting waivers of state regulations.

The principal and teachers at Fidalgo have turned the school into an active community learning center appropriate to the unique characteristics of Anacortes, which is a small fishing town with trade connections with Japan. Fidalgo Elementary School is affiliated with a sister school in Japan, has an exchange program for the teachers, and offers Japanese instruction both to students and members of the community.

The school is based on an Integrated Learning System designed to increase student intellectual and academic achievement through the use of intelligence training and learning styles methods. The students learn in multiple-age groupings, rather than traditional grade levels, as a way to promote greater affective, social and academic growth. Remediation programs are focused on identifying strengths through which to learn, rather than hammering away at disabilities by having students work longer and harder on what they cannot do. The integrated, thematic curriculum offers learning in a meaningful context, often with several subjects being taught through a central theme.

The school opens early in the day and remains open after school to offer a latchkey program. Adult education classes are also offered during afternoons and evenings. The technology program, coordinated by the local Educational Service District, offers computer training to both students and parents, and many other programs are taught and attended by members of the community.

Incentive for the teachers to learn all the new skills involved has been created by offering credit towards a Master's Degree from nearby Western Washington University. Most of the teachers have during the last two years already completed this degree.

The responsiveness of this program to community needs is evident. Community members are enthusiastic, the atmosphere of the school is electric, and the eyes of the students and teachers are bright with enthusiasm. But what about student achievement? In 1985-88, the Average Total Battery MAT Score was 71st percentile, and did not include students in ESL (English as a Second Language) and Special Education programs. In 1989-90, students who were there both years scored in the 80th percentile, *including* ESL and Special Education students, but *not* including students in the Challenge (gifted) Program.

All sixth grade students this year placed in the Seventh Grade curriculum or higher, and 85%

of students in remediation programs finished at grade level. During the last two years, students in the Challenge Classroom (grades 3 through 6) scored at the 99th percentile on MAT tests.

This is only one example of numerous schools that are no longer accepting failure as inevitable for some students, and instead are assuring success in learning for all. We believe that the key to such success lies in creating positive learning environments in which students can actively learn through their strengths and many kinds of intelligence.

As growing numbers of schools discover and implement ways to help all students to learn, it becomes even more essential to make their methods broadly available to all educators. Technology offers the means for the multi-media storage and dissemination which will make this possible. In the last two years, a technology network has linked all schools in the State of Maryland to a database that can make available information on many kinds of teaching/learning strategies, and also allows teachers and administrators to dialogue with each other as they learn and apply new skills. The National Education Association's recent Mastery in Learning project linked schools with the Boyer, Sizer, and Goodlad networks, with universities, and with each other through computers.

It is just a matter of time until we have an international electronic research and development center which will be available to all teachers, and which will free them from the terrible sense of isolation that many experience. Such a system will make available to all a vital collegial support-system and inexhaustible resources in all modalities.

A Global Charter

In 1985, in Rio de Janeiro, there was a conference of the International Association of Accelerative Learning. At that conference, Linda MacRae-Campbell and I participated with over 200 people from many different countries in creating a Global Charter that began with the following:

"Every Human Being shall be guaranteed opportunities to develop his/her capacities to the fullest extent possible through formal and informal education as a lifelong process.

"Among the highest priorities of any country should be the education of each Human Being, beginning with parents and other caretakers as first teachers, helping them to learn ways to lay the foundations of intelligence from pre-birth on. Teachers and others responsible for the development of human capacities must have available the most current, well-researched information on teaching and learning, taking into consideration respect for individual and cultural differences.

"A world-wide data-bank should be developed to facilitate the sharing of this information, translated on request into any language. Educational systems utilizing this information must help each individual to learn how to learn and how to think analytically and creatively in order to help each country solve the complex problems of our time, not only locally but globally.

"World peace depends on the fullest development of each Human Being in mind, body, and spirit."

The time has come to move this Charter into reality. The technology has been created, the research and information are available, and the world desperately needs human beings who have been given the opportunity to develop all of their capacities in order to create a positive future for humanity. It can be done. ▲

About New Horizons For Learning

New Horizons for Learning is a non-profit, international human resources network, founded in 1980 to offer an expanded vision of possibilities in human development. The network is focused on synthesizing and communicating leading-edge educational research, theory, and practice through the newsletter, *On the Beam*, and through international conferences, network meetings, and seminars throughout the world. Members are offered resources and encouraged to develop local networks in their own geographical areas. A handbook on creating such educational networks is available.

Memberships are $25 per year (Active), $26-99 (Sustaining), $100 or more (Patron), and $250 (Corporate), and include a subscription to *On the Beam*.

To become a member, send check or charge card number with your name, address, and professional affiliation to New Horizons for Learning, 4649 Sunnyside North, Seattle, WA 98103 or call (206) 547-7936.

Conference On Accelerative Learning

A joint conference of New Horizons for Learning and the Society for Accelerative Learning and Teaching (SALT) will be held in Seattle on April 26-28. It will feature Dr. Georgi Lozanov, Bulgarian creator of accelerative learning techniques (see p. 22) and a host of other internationally recognized researchers and practitioners in this field. For a brochure or further information contact New Horizons for Learning at the above address.

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PS Lately I've been thinking that it's time the word "deadline" got retired. It originated in military jails, where it referred to a line over which prisoners could not walk without being shot. Not a pleasant image for an editorial team to be working under!

We at *IN CONTEXT* do our best to be timely, and we generally do pretty well. But we're also concerned with doing something good and lasting, and taking care of ourselves, and occasionally that takes more time than we've scheduled. The little slips in our deadlines add up – this issue, for example, is dated "Winter 1991," while #26 was dated "Summer 1990" and #25 was called "Late Spring." (I recently estimated our true frequency to be about 3.5 issues per year.)

So I propose an alternative word to mark the target date for an issue and replace the terrible "deadline": *birthline*. This reflects our reality, as births are notorious for happening just when they're supposed to – sometimes a little early, sometimes a little late. But rest assured that we will always give birth to as good and as timely a magazine as we can deliver – and you will always get 4 issues in your one-year subscription. It just might take a little more, or a little less, than one year. (For unsolicited manuscripts, note that our new word is "closing," as in a door.)

One Enchanted Evening • Context Institute recently hosted a get-together for subscribers in the Puget Sound region. We sent out 750 invitations, and we were astonished when 92 people showed up – in the pouring rain. Interest in putting the magazine to work ran high, and we are looking at ways to help subscribers get together in their locales for workshops or study circles.

If you have ideas or interests along that line, please contact us. Also, we do get around a bit, so if you are interested in helping us put together a "subscriber evening" or workshop in your area sometime in the future, let us know.

What Is a Unit-One? • In our efforts to be as humane and sustainable as possible in our promotional efforts, we have developed new "unit-ones" for our gift, renewal, and promotional mailings. Unit-ones have envelopes built right into a one-piece flier or brochure, saving a lot of paper and energy. We printed them on recycled paper, and we also designed them to be paper-efficient and very low-key – to reduce the use of trees and the noise of advertising-talk. If you'd like to help spread the word about *IC*, drop us a note (or use the check box on the back of the order form below) and we'll *happily* send you some brochures to hand out.

IC On-Line! • Please look over the notices about the new *IN CONTEXT* Seminars on the next page. We hope to meet many of you on-line! Over to you, Diane....

– Alan AtKisson

A LOOK AHEAD ...

Readers are heartily encouraged to submit articles, essays, poems, stories, drawings, photos, etc. for these upcoming issue themes. Send a SASE for our guidelines to PO Box 11470, Bainbridge Is., WA 98110.

• ***#28 – The Fundamentals of Earth Stewardship.*** From agriculture to citizen action to ecosystem restoration; what we need to do to live sustainably on planet Earth. Closing: Jan. 1, 1991.

• ***#29 – Human Family Planning.*** Creative strategies for balancing human numbers with human needs – and the needs of the biosphere. Closing: Mar. 1, 1991.

• ***#30 – EcoVillages: Sustainable Communities Around the World.*** How people are putting humane and sustainable values into practice, in communities of all kinds. Closing: June 1, 1991.

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European Report • We have just returned from an exceptionally fine two months in Scandinavia. Our house exchange (with Märta Fritz, editor of the Swedish Green Party's newspaper) worked very well and provided a welcoming home base for us as we forayed to other European countries.

Sweden is on the move toward creating a more humane and sustainable society. Swedes feel that there is much to be done, which is true, yet they are so far ahead of the USA in consciousness and action that we are bringing back the message, "Hey America, wake up or be left in the dust!" You will be seeing some of what we found in issue #28. One observation: the *only* piece of advertising present on Sweden's long-distance trains is a little display for Greenpeace.

Our time away also gave us the opportunity to experiment with being connected with the office by electronic mail over PeaceNet. It worked very well, and we were happy to be in such close touch with the rest of the staff.

We took three major trips from our home base in Stockholm:

1) 25 hours by train from Stockholm to Zurich – a most enjoyable and beautiful trip. Robert and I presented an evening about *IN CONTEXT*, Context Institute, and the Global Action Plan (GAP) to a very interesting international group. (See *IC* #26, "The Global Action Plan," for a complete description of this project.) Switzerland to Holland brought us to the Narwal Conference Center to work with the Dutch GAP EcoTeam Project. Then on to Denmark for a wonderful meeting with old friends.

2) Our trip to Norway was a tour of GAP meetings in Oslo, Bergen and Stavanger. I also visited the church where my great-great-grandparents were married!

3) Our last journey took us to an EcoVillage Conference in Falkenberg, Sweden, where we learned how *mainstream* the Swedish thinking is becoming toward creating more ecological and sustainable communities. This conference was followed by another meeting in Göteborg of the International GAP EcoTeam Project leaders.

All in all, a very productive trip, full of warmth and friendship and rest, too. One major new project that came out of it all will involve an upcoming issue of *IN CONTEXT* on Ecological Villages and Sustainable Communities, scheduled for this fall. Got any info to share? Send it my way – and stay tuned!

– Diane Gilman

Want to find out more about Awakening Technology?

Be Our Guest:

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IN CONTEXT readers are invited to visit the Awakening Technology on-line learning community free during the months of December and January. Experience the supportive Awakening Technology learning environment before registering for your IN CONTEXT Seminar. You can then register right on-line!

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Just set your modem and software to 1200 baud (higher speed lines are available once you register) and VT100 terminal emulation (very important) and dial 503/697-3569 with your modem. Call 503/635-2615 (voice) if you need technical support.

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Feedback *(cont'd from p. 4)*

LOVE LETTER OF THE MONTH

You are the best publication that comes into my home – the only one I read cover to cover. Every issue seems to speak directly to my personal struggles to become a better human being and do what I can to make life meaningful and peaceful for my children. You make me feel connected. You make me feel hopeful that, together, we can find a sustainable lifestyle that blesses all and injures none.

I am renewing my subscription and adding two new readers to your circulation. Also, I would like 5 extra copies of #26 to send with a personal note to special friends who, I hope, will become subscribers.

– Rita L. Graham
Winter Garden, FL

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presented in collaboration with Awakening Technology™

The ***IN CONTEXT Seminars*** are designed to take you through a *group* process of learning and exploration that is highly *personal, practical,* and *interactive*. You will learn how to apply new ideas directly in your own life – and in the world around you – to help create positive change to a more humane and sustainable culture.

The Seminars consist of weekly experiential exercises that you'll share with the group, readings from *IN CONTEXT*, and discussion led by a skilled facilitator. The Awakening Technology system is very easy to learn and use. And the medium of computer communication allows you to work at your own pace – at times of your choosing – and to develop close relationships with your Seminar colleagues.

Each Seminar is 10 weeks long and costs $195 (a sliding scale is available). Plan on spending 2-4 hours per week. You'll also have access to the entire Awakening Technology community of innovative and supportive people, resources, and "hyperspace" meeting areas. ***Please register early.***

Upcoming Course Offerings

Winter Term • Jan. 21 - Mar. 31, 1991 • Registration closes Jan. 4
Spring Term • Apr. 8 - Jun. 16, 1991 • Registration closes Mar. 18

LIVING IN CONTEXT • Be an effective change agent for a humane, sustainable culture. This Seminar provides a comprehensive introduction to whole-systems thinking, innovation diffusion, and the process of cultural change. You will select a real system from your own experience and explore how to understand it more deeply, interact with it effectively, and work to change it for the better.

EARTH AND SPIRIT • Whatever your religious orientation, this Seminar will enhance your relationship with the Earth. Through exercises and guided meditations in natural settings of your choice, together with weekly readings and discussion, you and your colleagues will explore how the divine is reflected and revealed in the natural world, and how to connect more deeply with it.

AVENUES FOR ACTION • The fast track for empowering yourself! This Seminar will give you ideas and encouragement for taking specific action to improve your relationship with the environment – in your personal life, in your community, and in ways that can have global impact.

What You Need

A **computer** (almost any kind), a **modem** (300, 1200, or 2400 baud), and **telecommunications software** with VT100 terminal emulation (many packages have this). Free technical support and information on low-cost long-distance service is available. **For more information, send for a complete brochure (order form on left) or call Awakening Technology at 503/635-2615.**

BACK ISSUES

$5 each postpaid, $75 complete set. Quantities limited; some issues will soon be sold out.

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– Lester R. Brown, President, Worldwatch Institute

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shall be guaranteed opportunities
to develop his/her capacities
to the fullest extent possible
through formal and informal education
as a lifelong process.

World peace depends
on the fullest development
of each Human Being
in mind, body, and spirit.

From a Global Charter created at a conference of the International Association of Accelerative Learning, Rio de Janeiro, 1985 (see p. 60).

IN CONTEXT #27
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